FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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Survey Indicates Production Increase in 1960

By GEORGE L. GATES
Editor of Feedstuffs

Formula feed manufacturers expect to produce more feed during 1960 than they did in 1959, but a strong majority of those responding to a Feedstuffs survey look for unchanged or lower profits.

Seven out of the 58 feed executives participating in the survey predict higher profits. On the other hand, 27 predict reduced profits, 14 look for no change and 7 expect profits to be either lower or unchanged. Three respondents declined to make a prediction.

Production of feed next year could climb between 5 and 6% on the basis of estimates provided in the survey. Estimates ranged all the way from a reduction of 20% anticipated by one manufacturer to a doubling of tonnage expected by another. A total of 34 expect an increase, 14 expect a decrease and 10 look for no change in tonnage.

Answers to the survey came from representative manufacturers in all parts of the U.S., including local mills and those doing business on a national basis, and while the number of mills included is not large, they represent a very important portion of industry capacity.

The predictions made possible by the survey responses may be considered significant even though strict scientific sampling techniques were not employed.

Participating were 18 manufacturers located in the East and Southeast, 10 in the West and Southwest and 30 in the Central region. Both private firms and cooperatives replied.

The composite estimate of a 5 to

(Turn to BUSINESS PROSPECTS, page 8)

Compare Your Views on the 1960 Outlook with Those of Your Fellow Feed Men*

Here's how a representative group of feed manufacturers answered qustions on certain industry developments, trends and problems:

QUESTION	NUMBER OF FEED MANUFACTURERS		
	More	Less	Unchanged
Do you expect your tonnage in 1960 to be greater or less than in 1959?	34	14	10
Do you think feed manufacturers' profits will be greater, less or unchanged?	7	27	14**
	Yes	No	
Are you involved in or expect to become directly involved in end product marketing?	17	40	
Do you expect more feed manufacturers to own and operate feeding enterprises?	40	14	
Do you expect any tightening of credit for feeders?	54	2	
Do you think more feeder financing will be handled by banks & other lending agencies?	17	25	
Do you expect more sale and use of complete feeds for livestock as well as poultry?	34	19	
Are you making or do you expect to make roughage pellets or complete pellets for cattle and lambs?	23	34	
Do you expect more sales by feed manufacturers of premixes and super concentrates to feeders and local mixers?	41	12	
Do you expect to ship or deliver more feed in bulk in 1960?	47	6	

*This tabulation is based on returns from 58 feed manufacturers, of all sizes and categories, from all regions of the country. The numbers in the tabulation for different questions represent only replies which could be readily classified. (In some cases no answers or indefinite answers were given.) That is why the answers to the various questions vary in total.

**In addition to this tabulation, seven manufacturers replied "less to unchanged."

11% Pig Crop Cut Predicted

WASHINGTON—A prediction which should be accepted as encouraging by manufacturers and sellers of hog feeds was made this week by the U.S. Department of Agriculture. Next spring's pig crop is expected to be 11% less than 1959's. This means, it was reported, that pork prices are likely to move upward 10% when the spring pigs are sent to market next fall.

Though the indicated reduction in the spring pig crop would result in fewer pigs on feed in 1960 than in 1959, the report is good news to the feed industry, because low pork prices have blighted hog feed business for quite some time. A higher price for the hog producer's product could very well encourage him to use more manufactured feeds. An unfavorable feeding ratio in the hog business has turned producers toward feeding as much cheap corn as possible.

Next fall is a long way off, but it is believed that an improvement in hog prices even that far in the future is a welcome development.

Great importance is attached to the spring pig crop report because

(Turn to PIG CROP, page 94)

Feed Men Say They'll Adjust and Move Ahead

By ROGER BERGLUND and FRED E. TUNKS
Feedstuffs Staff

Some feed men may be left standing at the station when the train of agricultural and industry change goes by, but it appears that most of them expect not only to be on board but to ride out adjustments and continue to move ahead.

As the industry moves into a new year and a new decade, Feedstuffs has sampled feed manufacturers' opinions of business methods and various industry trends, developments and problems.

The result is a picture of how representative feed men expect to fit into the competitive picture as the industry moves through an era not without its problems and broad changes. The answers of 58 feed men to the survey questions vary widely in many cases. But, if anything, the replies indicate a determination not to go the route of buggy whip makers if, indeed, anyone thought that that might be the case generally.

On the whole, the responses reflect what might be called determined optimism. (Also see accompanying story on volume and profit prospects.) Many manufacturers recognize that greater efforts will be required to make

(Turn to INDUSTRY SURVEY, page 6)

FEEDSTUFFS *Features This Week*

The coming year offers both problems and opportunities for feed men concerned with maintaining and improving their positions in a changing agriculture and feed industry. Continuation of progress for the industry and its individual members will demand the very best in planning and carrying out the various operations of feed businesses. To help provide some guideposts as the industry moves into a new year and a new decade, Feedstuffs has assembled outlook information, comments and suggestions on various phases of the feed business. Several special outlook features are included in this issue, including stories on this page.

INDUSTRY TRENDS: See **page 10** for a look at certain developments, trends, counter-trends and problems of current and forthcoming interest.

AGRICULTURAL OUTLOOK: Dr. Leonard W. Schruben, agricultural economist, presents 1960 agricultural production and price prospects of importance to feed men. **Page 22.**

NUTRITION: Nutritional applications in 1960 as seen by Dr. Charles J. Lewis, industry nutritionist, are discussed on **page 42.**

PRODUCTION: The need for good plant supervision as the industry moves ahead is stressed by J. D. Johnson, production expert, on **page 80.**

FORAGE TESTING: Forage testing is gaining momentum, according to Dr. Richard S. Adams of Pennsylvania State University. See **page 26.**

COMMUNICATION: Improved farmer-business man communication has become more crucial. See **page 36** for a report on research on how farmers adopt new products.

REORGANIZATION: How does a feed company adjust to growth and changes in animal agriculture? See **page 64** for an explanation of how one major firm reorganized.

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Top of the Hopper

ONE OF THE FAVORITE PROJECTS of the Feedstaffers is putting together the annual outlook issue, particularly the survey which enables us and our readers to probe the plans and prospects of feed manufacturers throughout the U.S. No attempt will be made here to further summarize, weigh or evaluate the comments of these men, because their thoughts are reported in great detail elsewhere in this issue.

We mostly want to urge all readers to study closely what their "shrewd and competent competitors" (as one manufacturer described his fellow feed men) are saying about the business outlook for 1960. Their comments on the state of affairs are candid, and the moves they plan to make to keep in the race can be valuable to all members of the feed fraternity.

Answers to several of the questions appear to confirm a number of reported trends in the industry, and from this standpoint the survey has value also as an historical reference, if that is not too dignified a description. What we mean is, we feel this report to our readers has meaning.

And it has meaning only because many busy feed executives were willing to take time out from their busy days to fill out a three-page questionnaire and fire it back to us promptly. Our sincerest thanks go to those who contributed.

Speaking of meanings, one of our editors commented that three years ago when we asked about use of premixes and super-concentrates, several of the answers indicated the respondents didn't know exactly what we were getting at. Says he, "They sure understand it now." We daresay that some other terms that apply to different ways of doing business have become much better defined in just the past three years, too.

To all the "shrewd and competent competitors"—and we feel sure the description is intended to be respectful—we would like to suggest the thought of one manufacturer as a philosophical guide for the year ahead:

"Surely we must have learned enough from all the mistakes of the past two years to progress in the next year. If we continue to render a service that is needed we will survive."

To this we would only add one fearless forecast: The industry has shown amazing vitality in recovering from adversity and in adapting its methods to the needs of the day. Feedstuffs is positive this attitude will enable the industry to forge ahead in the 60's. Good luck!

CONSIDERATION OF THE SENSE OF TASTE in animals has often been in relation to stimulation of feed intake. However, there are possibilities in the other direction, too. Discussing some practical aspects of the sense of taste in animals, Dr. Morley R. Kare of Cornell University noted that one practical application of chemical control of feed intake would be in restricted feeding. The problem of adding bulk to the ration or the labor of removing feeders would become unnecessary. Also, initiating a moult or retarding the onset of egg laying in started pullets might be possible to a precise degree through the sense of taste.

PURDUE AGRICULTURAL ECONOMISTS have concluded from studies there is a point in farm size when returns start falling off. This size, they say, is around 500 acres.

Prof. N. S. Hadley asserts that returns to farmers on their invested capital and labor rise rapidly as farm size increases up to about 200 acres. Beyond the 200-acre figure up to 500 tillable acres returns to farm capital and labor hold about steady. But returns tend to drop off slightly when the tillable acreage is above 500 acres.

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

A quiet week was recorded by most of the nation's formula feed manufacturers. Business was slow to steady. Apparently most mills were operating 3½ days this week because of the long Christmas week end, which slopped some orders over into the next week. The quiet tone was expected, of course, because it is traditional that dealers try to hold down inventories as they go into the new year. Current price levels of hogs, cattle and broilers are somewhat discouraging, but there were indications that the future will bring some substantial improvement. The U.S. Department of Agriculture has predicted an 11% cut in next spring's pigs, which may mean that pork prices will rise about 10% next fall. Broilers, suffering from a holiday season slump, are expected to gain some ground after the first of the new year. A slightly stronger tone was evident in cattle prices this week. Ingredient movement was only fair. Wheat millfeeds were stronger. The possibility of dock workers striking still threatened, inducing some buying, and offerings were reduced by mills because of shortened production time. Soybean meal prices were steady, but an easier tone prevailed. Linseed meal business was slow. Some price concessions were made in the alfalfa meal market. Fish meal gained because all fishing has stopped on the west coast. The index of wholesale feedstuffs prices edged up to 82.4 this week from 82 a week earlier. A year earlier the index was 93.7. The feed-grain index, 63.7 this week, was still much like last week's 63.6 and the 64.1 index of a year ago. Another drop came in the hog-corn ratio—10.7 compared with last week's 11.1 and a year ago's 15.7. (Ingredient markets in detail on pages 92-94.)

Northwest

December will more than likely go down in the ledgers of most northwestern feed manufacturers as a disappointing month. Generally speaking, December's volume has been noticeably under that of October and November and a bit under that recorded for the same month a year ago.

There are exceptions to the generally quiet business reported by manufacturers. One manufacturer indicated the business this week was keeping up with last week, even though the long Christmas week end cut the week short. Three days' orders were nearly as heavy as those received in the full five-day week preceding. This same mill reported a December level far above October or November and close to December of a year ago.

Another representative of the industry in the Northwest reported that his company was losing some of the ground it gained in the fall months ahead of December. It appeared in this particular case, anyway, that the holidays came at the right time. Demand may not have been enough to fill out a full five-day week.

Apparently, dealers are attempting to hold down their feed inventories as the year nears its close.

Dairy and beef cattle feeds are still out in front as the best movers. Poor feeding ratios for other livestock and poultry are said to be accounting for feeders' disinterest in other than cattle feeds.

The remainder of the year will be quiet for feed manufacturers in this region—and no one is quite ready to predict what might be ahead for January.

With ingredient markets relatively quiet, no immediate changes up or down are expected to follow last week's slight increases in formula feed prices.

Southwest

Formula feed business in the Southwest is in the holiday doldrums this week. Features are virtually absent. Mills generally are running three to four days, depending upon what labor contracts call for.

Orders are rather scarce and backlogs going into next week will be slim, despite the reduced production week. Some mills expect a pickup after Christmas as dealers rebuild inventories which they let diminish prior to the year-end inventory taking.

Cattle and dairy feed movement is good. Hog and egg laying rations are also in fairly good demand, even though sales departments express disappointment that they are not in better call, a situation blamed on low feeding ratios.

Price lists for next week will go out mostly unchanged. Because business is slow and ingredient markets have not changed a great deal, many mills will not even put out a list for next week.

Northeast

Sales of formula feed remained on the slow side as the industry entered the traditionally dull holiday period.

The trade looks for an upturn during the first half of January followed by a tapering off in sales in the latter half of the month. Some consumers prefer to wait until the new calendar year before making any additional commitments.

Broiler prices held up fairly well during the week in the East with levels ranging from 18@19.7¢ lb. Eggs were about steady and milk continues to be a money-maker.

Broiler feeds have moved up to third place in sales tonnage now that turkey feeds have faded from the picture. Dairy feeds maintained their sales leadership, followed by egg mashes.

Broiler feeds are expected to move in volume after the first of the year because of placements in this area.

The ingredient market was mixed during the week.

Southeast

All types of feed business in the Southeast are reported as being a little on the slow side this week. Movements of broilers to the market were cut down considerably this week due to the holiday season coming on, resulting in prices dropping as much as 2½¢ pound, being quoted on the farm at 14½@16¢. Many do not look for any improvement until after the first of the year.

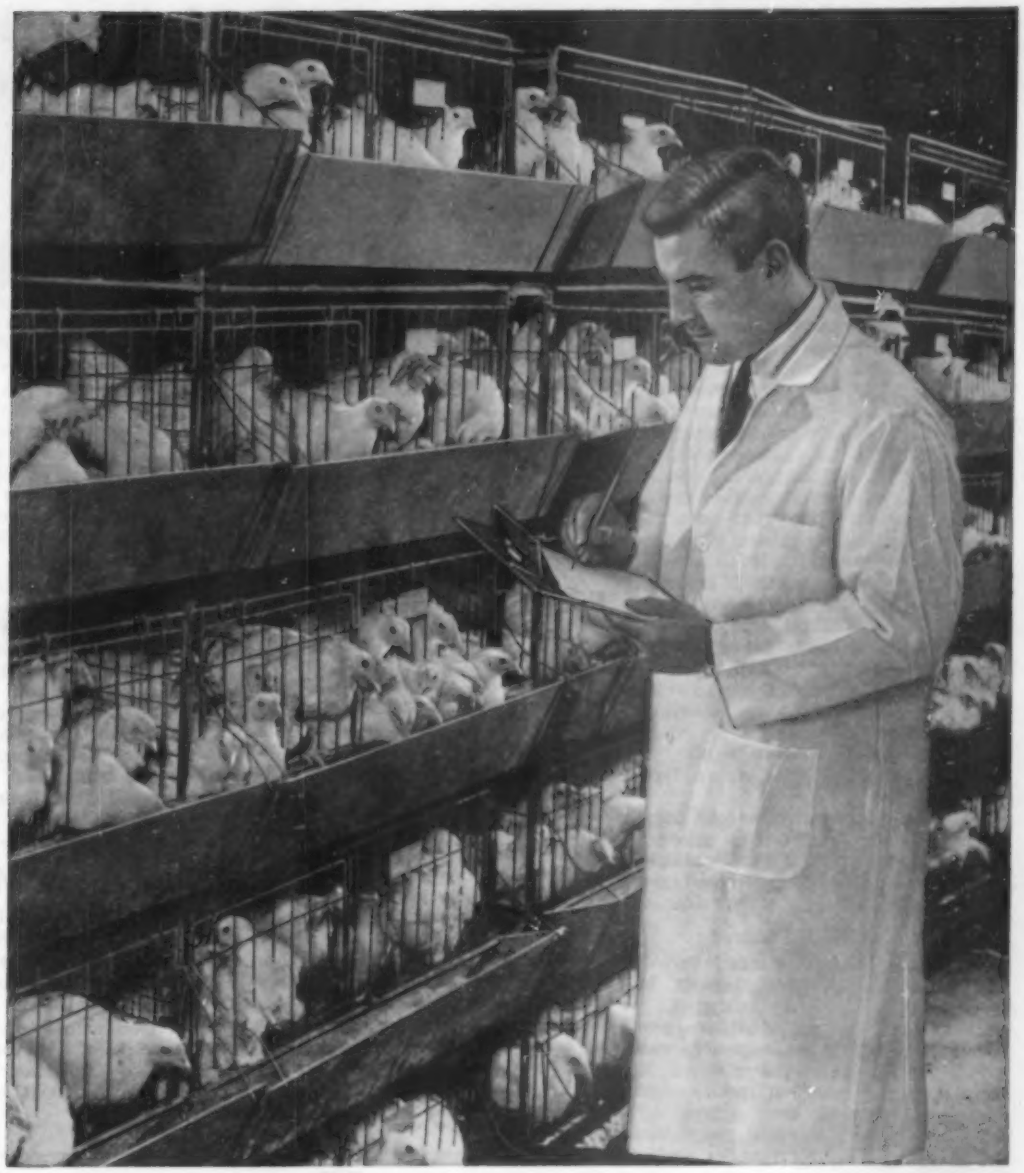
Fairly good buying of soybean meal has kept prices unchanged at $59@59.50 most Mississippi Valley points for December-January shipment.

Pressure is beginning to show on the cottonseed meal market, with prices down as much as $2 ton for the week in the Mississippi Valley, with some signs of lower prices in

(Turn to MARKETS, page 97)

Peter Hand

DOWN ON THE FARM



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Chemell Failure Leaves $4-6 Million in Unsecured Claims

By GREGG PUSTER
Special Correspondent

The year's biggest news story in the poultry industry has just about run its course and probably will be completely forgotten within six months—except by those holding the bag for some $4-6 million in unsecured claims against the bankrupt Chemell hatching empire.

Four months ago, when three of the 20-odd Chemell corporations sought a six-month moratorium on some admitted $1.5 million debts, it was stated that the corporations were solvent and that reorganization could be accomplished within that time.

Subsequent events proved that the firm had less than $100,000 in assets, instead of claims of about $2 million, and that liabilities ranged anywhere from $4 to $6 million. Many of the items listed as assets proved to be worthless and uncollectible.

With the exception of some banks which had mortgages on breeding flocks and were authorized by court order to foreclose, almost all the creditors, with unsecured claims, face total loss.

These range from major feed companies to flock owners, from printers to aircraft lessors and include claims of more than $150,000 in income taxes by the Internal Revenue Department.

What Caused Failure?

What brought about this failure—and what has been the impact, in general, on the poultry industry?

First of all, the trustees have pointed out that mismanagement was the chief source of the troubles. It was said that not even the simplest business principles were applied by an outfit which operated hatcheries and breeder flocks all over the Southeast and produced anywhere from 5-10% of all the broiler chicks hatched.

During the hearings when the creditors were considering a reorganization plan, efforts were made to have an audit made of the entire set of corporations. So far, two months after the firms were declared bankrupt, there is still no audit and the accountants and trustees are still trying to unravel the skein of the operations. And no one expresses much hope that it ever will be unraveled.

What happened to all the money? When Chemell was at peak operation, chick production totaled around 2 million a week, and even with the depressed chick prices, made sales amounting to around a half million dollars a month.

It was pointed out at the hearings that Chemell's costs averaged about 9½¢ per chick, and that production was geared so high that cutbacks actually increased costs rather than effected any savings.

L. A. Chemell himself is reported to owe the various corporations he headed in excess of $1.3 million, but the trustees consider this a worthless claim. Mr. Chemell testified that he drew $30,000 annually as president of the corporations, but declared he didn't remember how much income tax he paid last year and wasn't even sure if he had a personal bank account.

There were virtually no tangible physical assets owned by the companies as equipment was leased or rented. This included incubators, trucks, cars, airplanes, even office furniture. When the leasors were authorized by court order to reclaim their property, the "pantry was emptied."

What About Chicks?

What happened to those 2 million baby chicks hatched and placed each week?

Despite recent higher broiler prices, attributed to some extent to stronger buyer demand, there has been little or no indication that the cessation of Chemell hatching brought about a shortage of baby chicks suddenly. First of all, the liquidating has been orderly and spread over a period of several weeks as incubators were emptied but not refilled.

This made it possible for other hatcheries to serve Chemell customers, and several of the Chemell plants were taken over and operated by others.

One such instance was the organization of Perron Hatchery, Inc., by O. A. Perron, one-time right-hand man for Mr. Chemell. He leased equipment once used by Chemell and even set up business in a building once leased to Chemell in Gainesville.

W. C. Gardner Co. took over hatcheries in Jasper and Marion, Ala., and is expected to be producing around 140,000 pullets a week by January.

While the banks confiscated flocks on which they held mortgages, many of these birds were sold to flock owners, and probably other hatcheries. And it has been apparent that eggs from these breeder flocks have been moving in normal hatching channels.

With Chemell spread all over the Southeast, closing of individual hatcheries affected only local areas, rather than the industry at large. Since the equipment was leased, it was a relatively simple matter for others to take over and operate the hatchery.

At one point, it was said that anyone who wanted to go in the hatching business could virtually write his own lease terms for equipment and buildings once leased to Chemell. It

(Turn to CHEMELL, page 91)

Dehydrators Plan Colorado Convention

COLORADO SPRINGS, COLO.—"Dehy's Golden Days" will the the theme of the American Dehydrators Assn. convention at the Broadmoor Hotel here Feb. 3-5, 1960, with prominent nutritionists and livestock specialists forecasting the future of dehydrated alfalfa in feeds.

Dr. R. R. Spitzer

Keynote speaker on the morning of Feb. 4 will be Dr. R. R. Spitzer, president, Murphy Products Co., Burlington, Wis., who will point out "Opportunity and Responsibility of Our Industry."

Other highlights of the convention will be a symposium on beef cattle with economists, nutritionists and participating feeders; a section devoted to "New Feeding Frontiers" where specialists will discuss new trends in feeding as well as the nutritional value of dehydrated alfalfa in feeds of the future for poultry, dairy and swine, and a final summing up of "What Every Dehydrator Should Know."

Builds Feed Mill

HAYWARD, CAL.—Hayward Poultry Producers, cooperative with a membership of 1,200 farmers, is putting in a new two-man mill in Morgan Hill, Cal.

The electronic operation will have a capacity of 100 tons a day. At present, its mills at Hayward and Ripon turn out 50,000 tons of poultry feed a year.

Ban's Effect on Broiler Prices Still Questioned

Further decines in broiler prices late last week and this week and late observations give some support to the thinking that the talk and print in public about stilbestrol and caponettes may be contributing more to the price slump than earlier indicated.

Apparently there is some fear among producers, processors and retailers that consumers are turning their noses up at all chickens because they're not sure what the fuss is all about.

Some representatives of the poultry industry say recent broiler price drops were brought about by the annual Christmas slump period for chicken.

Others, however, say a fall-off in broiler prices of as much as 3@4¢ in same areas over the past two weeks is due in considerable measure to the housewife's concern created by confusion over the caponette ban.

In some cases processors are said to have held back because of fear of consumer reaction.

Central Soya Reports Drop in Net Profits

FORT WAYNE, IND.—First quarter net profits of $848,390, after provision for federal and state taxes, have been announced by Central Soya Co., Inc. Sales were $64,325,017 for the three-month period ending Nov. 30. This compares with sales of $65,428,983 and net profits of $1,526,939 during the same period a year ago.

Net profit for the three-month period just past was 31¢ per share, compared with 56¢ in the same quarter last year, based upon the 2,733,898 shares currently outstanding.

"The profit drop reflects a continuation of market conditions that prevailed during the latter part of the previous fiscal year," officials said. "These conditions have resulted in narrow profit margins in the soybean processing industry as well as in some areas of livestock and poultry production.

"Current evidence indicates that conditions in certain segments of the feed industry may be correcting themselves."

Meanwhile, the company's chemurgy and grain merchandising divisions have continued to show satisfactory progress.

Secretary Flemming Confirms Earlier View on Stilbestrol

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — This week, almost to the punctuation marks, the Secretary of Health, Education and Welfare confirmed the government view on stilbestrol in animal feeding as reported last week in Feedstuffs.

The secretary, Arthur S. Flemming, told a press conference here that he would ask for an amendment to the food and drug law, which, under existing terms, includes a "grandfather" clause for stilbestrol and other previously cleared additives. What Mr. Flemming proposes is to halt the situation under which previous clearances remain in effect while new uses or changes are not permitted if suspected carcinogens are involved.

At the same time, he suggests another change in the law which would permit additional use of stilbestrol in feeding or would permit firms licensed to use it to widen its use and make changes in currently frozen feed formulas. The stipulation here would be that any further use, or even present use, would depend on there continuing to be no evidence of any residue in the meat of animals fed an estrogen.

(For details of the legislative proposals, see Feedstuffs Dec. 19.)

While one proposed amendment would result in revoking Delaney clause "exemptions" which now exist under "prior sanction" provisions of the law, the second proposed amendment would change the law so that so-called carcinogens would not be banned if there were no residues in human food.

The Flemming statement this week, after a lengthy period of uncertainty and speculation, would appear to remove many doubts on just where the Food and Drug Administration stands on the issue. In the past few weeks, even the top man of the agency has appeared at times to be on both sides of any controversy over application of the Delaney clause and possible changes in the law.

Now he seems to have transferred the issues to Congress, where he would ask corrective legislation along the lines noted above.

This does not mean that the feed industry can obtain immediate corrective relief for some of the inequities under which it is now working. In fact, the Flemming policy does not provide any primrose path to final relief since the hysterical issue of cancer danger beclouds the situation.

As stated many times, the law as it now stands specifically bars the clearance of any substances — notwithstanding the question of residue in human food—if the substances have been shown to produce cancer when ingested by test animals.

At this time there is no telling what Congress may do when the issue reaches it. The issue is hotly controversial, similar to the issue of rodent contamination of grains. However, in that case, the controversy was primarily one of esthetic values difficult to fight, whereas in the current issue, the fight could resolve itself into a question of being for or against cancer.

While progress apparently has been made in finding ways out of the dilemma facing the feed industry and agriculture, the problems have not yet been solved and possibly the secretary has deftly shifted the issue to Congress where he may have suspected the cancer issue would arise.

New Feed Pelleting Machine Displayed

ROCKY FORD, COLO.—A new pellet machine was demonstrated here last week by its inventor, Francis H. Clute. It is said to "pellet all manner of feed without prior grinding; the material is not dehydrated, nor is a steam boiler required."

Francis H. Clute & Son Co. is negotiating with the Ray Cunningham Co., LaCrosse, Wis., to manufacture the machine.

Plans also are under discussion to establish a plant here which would pellet both green and dry feed produced in the region.

A delegation of more than 100 persons from Nebraska, including agricultural agents, businessmen and farmers, was on hand to watch a demonstration and discuss uses of the new machine.

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INDUSTRY SURVEY

(Continued from page 1)

their operations successful next year, that sound management will be needed, that continuing adjustments in methods and products may be necessary. It is apparent that they will sharpen up some old tools and also forge some new ones.

Replies to certain questions on the outlook showed this general picture (also see tabulation on page 1 of some of the questions):

● **What methods will be used** to increase sales? Most say they will intensify present efforts. They mention such things as harder selling, more calls, more feeder meetings, improved service, emphasis on bulk, salesmen and dealer training, concentration on important feeders. Others mention stepping up integrated type programs and stress on complete feeds.

● **Commenting on obstacles** in development of larger volume in 1960, most feed manufacturers mention unfavorable feeding ratios and lower prices for farm products. Also, many cite such things as restrictions on credit, higher interest and large supplies of cheap grain.

● **Manufacturers are keenly aware** of the need to adjust, where necessary, to continuing changes because of such things as integration and farm specialization. However, views vary, depending on area, type of business, etc.

● **Less than a third** of the feed manufacturers replying are now or soon expect to be involved in end product marketing, and in many cases it is broilers where they are involved. However, a number of others are studying this question, and quite a number commented that they are or will be helping customers in marketing.

● **Just about three fourths of the feed men** expect more feed manufacturers to own and operate livestock and poultry feeding operations—that is, their own operations, not just contract feeding. Some feel this will increase because more feeders will be mixing their own feed.

● **The feed manufacturers are almost unanimous** in expecting a tightening of credit for feeders. This is attributed in considerable measure to losses which have been or are expected to be sustained by feed firms. Also influencing this are capital limitations and the more limited and higher cost supply of bank credit for feed manufacturers who finance feeders.

● **More feeder financing by banks** is expected by some of the feed men, but a majority of those giving definite opinions on this feel otherwise. Higher interest rates, tighter money and opportunities for less risk in other types of loans are among reasons given.

● **A continuing increase in complete feeds** for livestock as well as poultry is expected by most of the feed men, but a good many see an increase in concentrates, largely because of low livestock prices and an abundance of grain currently.

● **Quite a number of the manufacturers** reported making or planning to make roughage and complete pellets for beef cattle and lambs. Most of these companies, largely local or medium-size operations, are in midwestern and western livestock feeding areas.

● **Bulk handling of feeds** will continue to increase in volume and in percentage of total volume. The average percentage of bulk delivery in 1959 was 34% among manufacturers who took part in the survey.

● **There is a definite trend** toward more sales by feed manufacturers of premixes and "super concentrates" to feeders and local mixers. More than three fourths of the manufacturers said they expected sales of this type to be greater.

● **There is a general feeling** that federal control of drugs used in feeds will tighten and that the confusion created by the government's handling of Delaney Amendment provisions will retard progress in the feed industry moderately and temporarily.

● **Principal problems which dealers** and local mixers will face are competing with direct selling, meeting service needs, obtaining capital for expansion, reducing accounts receivable and determining to whom and how far credit should be extended. Greatest opportunity appears to lie in providing more and better services.

Summaries of answers and comments on questions follow:

● What do you regard as major obstacles to be overcome in developing larger volume in 1960?

More than half the respondents list unfavorable feeding ratios and lower prices for farm products as major obstacles to better feed business. Also, many manufacturers cite tighter restrictions on credit, higher interest, poor risks, unsound financing and large supplies of cheap grain. Replies range from the terse comment, "competition," to suggestions for widespread efforts to educate farmers to better feeding methods.

Integration is regarded by some as a competitive problem to be met, while in other cases manufacturers indicate that lining up capital for integrated programs is a concern. Another suggests what is needed is coordinated programs without the need to finance producers. Government activities are considered by a few as likely to produce problems in 1960.

Some manufacturers believe that more mixing of feeds by larger feeders will stand in the way of bigger volume next year, and some larger firms cite competition from local mixers. Two anticipate morale problems among feeders and salesmen.

Here are some comments:

National firm: "Abundance of cheap grain."

Local firm in Midwest: "Poor prices for farm products, more expense for things farmers buy."

Midwestern firm: "Possibly the major obstacle to overcome in developing a larger volume for 1960 is financing. Other obstacles include lower farm income, lower average prices for poultry and livestock and more severe competition between manufacturers."

Midwestern firm: "Feeding ratio on poultry, swine, cattle."

Manufacturer in Midwest: "Produce prices. Education remains big objective."

Manufacturer in the Southwest: "In our particular section of the country, the obstacle concerning greater volume is always credit. Therefore, we will have difficulty in achieving our goal of increased volume because we do not plan to loosen our system of credits to dealers or feeders."

Midwestern manufacturer: "Feeding ratios; trend toward larger feeding operations mixing their own rations; unsound financing policies of competition."

Southwestern firm: "We need to develop optimism on the part of the feeder."

Midwestern firm: "Prices of end products could be low enough to encourage feeders to go back to local mixes or a concentrate program."

Western firm: "The major obstacle to overcome is to maintain your present customers and find new business at the same time. New business can be originated from farmers who have never before used formulated feeds."

Midwestern manufacturer: "Overproduction in cattle, hogs and poultry, with consequent lower feeding ratios."

Regional midwestern firm: "Shrewd and competent competitors."

Eastern manufacturer: "The tendency on the part of some manufacturers to 'give away' their products as the answer to holding and/or increasing volume."

Southern firm: "Lower hog prices, 'sour' poultry attitude, declining cattle prices."

Southeastern firm: "1. Loss of capital reserves during 1959 on part of feeder. 2. Reluctance on part of feed manufacturer to take as many risks as in the past."

Midwestern manufacturer: "Need development of coordinated programs without financing the producer."

Eastern firm: "Bureaucratic aggrandizement by terror indulged in by FDA. Bankers' reluctance to finance feed dealers."

Central region firm: "Fewer farm units with more large operators putting in their own facilities."

Northeastern firm: "Finding customers with business ability and financial backing to cope with present conditions."

Firm in eastern broiler area: "To get more growers to go back on their own."

Manufacturer in West: "More educational work needs to be done through farm magazines by feed manufacturers' associations, also directed at colleges, county agents and (others disseminating information) that the manufacturer of formula feeds performs a legitimate service that probably no one else can do so well, and is entitled to a fair return."

● What methods of developing increased sales will you stress in 1960?

Most feed manufacturers will endeavor to bolster their sales totals largely by intensifying their efforts. They will put more salesmen in the field, insist on more calls, train the salesmen and dealers better, step up advertising campaigns and hold more frequent feeder meetings.

Some apparently will be de-emphasizing strictly feed sales efforts and instead start or step up company-owned feeding operations and contract deals.

Many will seek to improve sales effectiveness by stepping up quality and service with such things as more bulk facilities and development of more factual information about their products. Some are planning to change their targets. One firm with regional distribution says it will concentrate more on feeders near the mill. Elsewhere, some manufacturers plan to enlarge their sales territories. Many are going to shoot for business with "key" farmers, and some look for their best opportunities among the medium-sized farmers.

A number of manufacturers intend to improve their service through their dealer organizations, but about an equal number say they will stress direct sales. One says he's going after more business with lower prices.

Here are some of the replies:

Midwestern operation: "We will institute a cattle program similar to our coordinated poultry and swine production and marketing programs."

Southeastern firm: "Bear down on quality and service."

Southern manufacturer: "Sell! Sell! Sell!"

Western firm: "A complete feed program plus finance service."

Northeastern firm: "Aiming our 'pitch' at progressive, key farmers and equipping our salesmen to offer real service."

Eastern firm: "More factual and educational work with our customers by our sales representatives."

Midwest: ". . . Increased advertising and promotions; increased use of contracts with feeders; better service and assistance to dealers; integration, and developing bulk service."

Midwestern firm: "Concentrated sales efforts on products that now make up a small percentage of our total sales—dairy, beef, turkey."

Manufacturer in the Midwest: "Lower price."

Firm in central area: "We will use financing, contract feeding, larger sales force."

Southwestern manufacturer: "With margins slim, good feeding will be more essential than ever."

Midwestern firm: "Hard selling; more resale for dealer organization; sell more bulk through improved bulk facilities; expansion of company-owned integration."

Southwestern manufacturer: "We will stress emphasis on bulk sales and plan to do more direct selling from the mill to the farmer."

Large firm: "(a) More intensive work resulting in more contacts, (b) upgrading dealers through better service to customers and (c) business counseling with dealers."

Manufacturer of broiler feeds in East: "More wholesale-cash business."

Northeastern regional firm: "Seasonal stressing of promotion of individual types of feed. More information (and indirectly sales) meetings with feeder groups."

Regional firm: "More effort on local area—within 40 miles."

Midwestern company: "Added sales personnel with new promotional offerings."

Local central states mill: "Com-

FEED MEETING PRIZE—Marlene Nicolas of the Muehlebach Hotel administrative staff models the mink stole which will be given away at the annual convention of the Midwest Feed Manufacturers Assn. Feb. 7-9 in Kansas City. Looking over the fur piece are (left to right), Dwight Dannen, chairman of the convention committee, Dannen Mills, St. Joseph, Mo.; J. J. O'Connor, Walnut Grove Products Co., Atlantic, Iowa, and Bob Greenlee, Nutrena Mills, Inc., Kansas City, Kansas.

plete feeds; complete feeding programs."

Southeastern firm: "We will be diverting more from the wholesaler and more direct to grower."

Northeastern company: "Sound credit."

Southwestern firm: "Enlarged territory and better contacts and service."

Southeastern firm: "Emphasis on quality offered and consequently cheaper meat costs."

Midwestern firm: "Complete program selling."

● Any comments on effects on feed business of such things as continued low poultry product prices, lower livestock prices, prospects for fewer layers, fewer replacement birds, little change in year's broiler numbers, more turkeys, more hogs to be fed?

Answers to this question illustrate the variety of attitudes and reactions of manufacturers in various parts of the country and provide an insight into forecasting methods employed by various industry men. Here are some of the comments:

Midwestern firm: "Believe the next six months will be a period of adjustment. Look for healthier market situation in hogs and eggs by June, 1960. Beef may take longer due to build up in numbers."

Midwestern manufacturer: "Harder to hold up sales and credit becomes a problem."

Western firm: "In this section poultry feed business is the smallest percentage, with no broiler or turkeys fed. There is still an increase in business volume possible in livestock feeds, both cattle and sheep. However, the lower prices place high quality feeds and efficiency of management and operation as a necessity."

Northeastern operation: "These are all comments which are symptoms of a changing pattern. Part of the trouble lies in poor reporting. Basically, there will be more people to eat and they will be eating better than ever before."

Midwest: "Operating on the western edge of the Corn Belt and in the Great Plains those problems are affected and modified by rainfall."

Large company: "Such a situation is already reflected in smaller feed volume. Feed volume will be less affected where the producer has no alternative but to feed manufactured feed, such as broilers, turkeys and layers. The hog and livestock producers can turn to straight proteins on low prices, which they usually do."

Midwestern firm: "All of these factors will make the producer shop more for feed, unless he is tied by a contract. The more efficient feed manufacturer will get the business."

Southwestern firm: ". . . Our volume of sales must be maintained or increased, because margins in feed will not improve this coming year. It has always been our policy to hold margins at a very minimum when our customers were working on a marginal or just slightly above-profit basis."

Western manufacturer: "Predict exploration by feed manufacturers into dairy feed area."

Eastern operation: "We still believe in the law of supply and demand. Poultry numbers were increased faster than demand. Perhaps we have learned from this."

Northeast: ". . . Only the very efficient can survive."

Commenting on hog feed: "Pushed complete rations in 1959. Doubt that it will be as successful in 1960."

Eastern firm: "Low poultry and livestock prices are our most serious challenges. Fewer layers and replacement birds will be desirable but the cut is not likely to be enough to help producer prices much. If broiler numbers hold just even, this should be slightly favorable. More turkeys and hogs will add to credit problems."

Northeastern company: "Reconstruction of poultry industry will be slow and difficult."

● What effects do you feel integration, contract farming, farm specialization and similar developments will have on your business?

The replies of manufacturers to this question were tabulated, insofar as possible, with these results: None (7), little (11), some (6), great (7), harmful (9), long range effect more than immediate (3). Only a few failed to reply to the question, but several of the answers could not be placed in any of the above categories.

The replies indicate, perhaps more than anything else, that feed manufacturers have been giving considerable thought to the subject and in many instances are making preparations to adjust to changes in their ways of doing business where necessary. Here are some typical ones:

Northeastern firm: "Farm specialization will affect our sales policies and we hope increase our volume. Integration and contract farming has had a setback in our area."

Southern operation: "None—will just sell more feed to fewer people."

Midwestern firm: "We believe in a coordinated program. All will have an effect, especially corporate farming."

Southwestern manufacturer: "Our broiler operation is becoming more integrated, and we feel that because of success in this particular phase of the industry, we will do more contract farming, particularly along cattle and dairy lines."

Midwestern firm: "We can't ignore it. Our potential sales are reduced unless we are willing to become part of it."

Midwestern firm: "They will ruin our business unless we change with the times and enter into similar developments ourself, which we plan to do."

Western firm: "Integration and contract farming is not a factor in the livestock business in our area except to a very limited extent. Farm specialization is important inasmuch as the trend is away from diversified farms to commercial enterprises."

Midwestern firm: "Not much in Midwest, but some."

Central area: "Integration, contract farming and specialization will affect us. We will be doing a larger volume of business with a smaller number of customers. We will have more money invested in large operations through finance."

Large firm: "Contract farming will have serious effects on individual manufacturers' feed volume. Integration should have less effect, particularly if it is horizontal and not vertical integration."

Midwestern company: "Not too much. They can't finance and operate profitably on present prices."

Midwestern firm: "The effect of integration, contract farming, etc., will involve changes in distribution methods, increased financial burdens and changes in credit controls."

Central area: "Far reaching. Impact on feed industry will be immense. In fact, is now."

Midwestern firm: "Little—doesn't seem to be a factor in our area—though we feel the pressure from outside."

Regional firm: "They will decrease our volume due to limited financing."

Regional midwestern company: "We feel the feed dealers should act as the agency for formula feeds as they have in the past, which will overcome some of the effects of the above mentioned."

Western firm: "Think these will hurt average-sized feed manufacturer. Tendency of all these activities will be to do it yourself."

Eastern firm: "We have been integrated for many years, thus know that its disadvantages soon offset its initial advantages. few contracts stimulate the grower to do his best."

● Are you involved in or do you expect to become directly involved in end product marketing? Any comments?

Of the 57 firms answering this question, 17 indicated that they were involved in end product marketing, at least to some extent, or pretty definitely expected to be. A good many of the 40 others gave flat "no" answers to the question, but several added comments to the effect that they are working with customers and marketing agencies or plan to help in some way in marketing. Also, a few of the "no" answers were qualified to the extent that study is being given to the question, even though plans may not yet have been made.

Most of those giving definite "yes" answers appeared to be in the broiler field to one degree or another. However, a few also mentioned turkeys and eggs.

A few of the local firms are involved to some extent, but for the most part it seemed to be medium-size feed manufacturers who gave "yes" answers, and then, as noted above, to a considerable extent it is broilers that are marketed. A number of large companies indicated that any activity in this field would be restricted to working with customers, with no direct involvement.

As might be expected, most of those now directly involved are in poultry areas, such as in the South and Delmarva. However, some broiler operators and others in the Midwest and other sections also are in marketing to at least some degree. Also, it may be noted that some cooperatives have been in this field for years.

Some of the comments on this question follow:

Eastern manufacturer: "We will be alert to the trend of becoming involved. Our immediate program calls for indirect interest rather than direct participation."

Midwestern firm: "Yes. Just enough so that we will be ready if our area is."

Midwestern manufacturer: "Margin of profit of feed industry will not support direct end product advertising, but we will continue to be indirectly involved."

Midwest: "We are not directly involved in final marketing of products, although we do have an association with the final marketing of broilers through our integration program."

Local firm in Midwest: "Yes. It's a hard tough road—having good experience."

Large firm: "We do not expect to be involved directly in product marketing. Feed manufacturers should remain specialists in their field, but encourage better marketing by their customers."

Midwestern firm: "Not directly involved at the present time; possibility of this in the future."

Midwest: "It is a service our customers are expecting more and more. As of now, the feed manufacturer who has a good egg market, or relatively better than others, is in a position to get the feed business."

Southwestern firm: "No. I want to remain a specialist—a feed specialist."

Southeastern company: "Already helping customers market eggs. Don't expect to go beyond this point."

Western manufacturer: "No. Although weak credit risks might force our hand on this."

Western firm: "No. We still believe in selling our products. For those who can't sell this is a good way out."

Eastern manufacturer: "We have been and expect to expand this activity in self defense."

Large firm: "Our involvement in product marketing will be by cooperation with existing marketing agencies."

Large company: "Only to the extent of attempting to be helpful to our customer producers."

Eastern firm: "Only in an advisory way. We will give more attention to this as a customer service."

Eastern firm: "We have an interest in a poultry processing plant."

Regional midwestern firm: "No, and don't intend to."

Local midwest firm: "Have been marketing contract broilers and turkeys for four years."

(Turn to INDUSTRY SURVEY, page 94)

USDA Lays Plans To Help Soybean Price Situation

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—The U.S. Department of Agriculture has given indications of how it plans to help check declining soybean prices.

USDA said in an official interagency memorandum that it anticipates that the price of soybeans may fall to support levels, and that they be made available for International Cooperation Administration and other government-financed programs other than Public Law 480. The memorandum to the programming division was given the approval of the Commodity Stabilization Service and the Agricultural Marketing Service.

This statement and other provisions made in the memo indicate USDA also probably will endorse a vegetable oil donation program shortly.

This memo states in part that "soybean and cottonseed oil should continue to be classified as surplus and made available for Title I, PL 480 as well as for any other government program. A heavy movement of these oils under PL 480 is necessary if there is to be no extremely heavy piling up of soybeans in government hands. The estimates on soybeans are predicated on the assumption that large quantities of soybeans will be crushed to meet the requirements for soyoil under PL 480.

Soyoil Prices Low

"Current soyoil prices are the lowest they have been in many years. There probably would be a large build-up of stocks of edible oils if there is not a substantial movement under PL 480, since the demand for meal probably would result in a larger soybean crush than would be needed to supply all requirements."

One might reasonably assume that USDA will approve an oil donation program outside PL 480, and that it will direct its efforts to check the recent decline in bean prices unless the loan program takes hold quickly. As of the last report, only 22 million-odd bushels of beans have been impounded this year under loan.

The December crop report, showing an increase of more than 10 million bushels of beans over its November report, staggered the buoyant bean market. Two months ago, a responsible CSS official told Feedstuffs that, on the basis of the then indicated tight supply-demand situation for beans, USDA might terminate its farm re-seal program for beans this year. This would have had the effect of forcing into the open market next Aug. 1 about 13 million bushels of old crop beans now being held on farms.

The first formal evidence of how far USDA may wish to go in aiding bean prices may be found when it announces its intentions on an extension of a farm re-seal program for that crop this year. Continued re-seal availability would take off the market more beans than the last crop report increase showed.

New Exchange Club

STOCKTON, CAL.—The Exchange Club and the Stockton Grain Exchange are co-occupants of a new building re-designed and remodeled in contemporary Japanese design. The theme is nautical and the building is windowless.

Carl Magnolia comes to the Exchange Club as manager with 17 years' experience in restaurant and bar operation. Two Valley chefs have been added to the staff.

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BUSINESS PROSPECTS

(Continued from page 1)

6% tonnage increase in 1960 compares with an estimated increase of approximately 9% for 1959 made a year ago. (No firm estimates for total 1959 tonnage are as yet available. The American Feed Manufacturers Assn. estimates that tonnage increased 5% in the first six months of this year.)

(A similar estimate made on the basis of a Feedstuffs survey in late 1957 indicated a 1958 increase of 10%. AFMA's figures later showed an 11% gain in 1958 over 1957.)

Comments of feed manufacturers on a wide array of industry developments and attitudes were sought in the current survey so that all manufacturers could draw a closer bead on prospects for the first year of the new decade.

Statements on profit prospects and those classified as comments on things in general (which understandably deal largely with the profit outlook, too) are presented here. Other questions are answered in another story starting on page 1.

Do you think profits for feed manufacturers will be greater, less or unchanged? Any comments?

The reason why many manufacturers expect only steady or lower earnings in 1960 is expressed succinctly by one mid-South manufacturer: "We're all in the cost-price squeeze, just like the farmer!"

The concern about lower livestock profits and lower feeding ratios is reflected in a number of ways by other manufacturers. Some, in response to the question about profits, cite strong competition, and others list such factors as the prospect for more bad debts and unfavorable ingredient markets which may put a squeeze on margins.

Here are some more comments:

Midwest manufacturer: "Profits should be more favorable relative to the trend toward receiving margins for formula feeds."

Regional operation in the Northeast: "Margins may be slightly greater, but any real change in profits will be brought about by inventory value changes."

Large midwestern firm: "Ingredient market not as favorable as last year, margin less."

Local firm in Midwest: "Less. I believe with the low livestock prices that it will be harder to hold up the regular margin of profits."

Western company: "Profits for feed manufacturers will be pretty much unchanged. Rising costs and increased competition place good management at a premium."

Midwestern firm with statewide business: "Profits will vary with companies, as they always have. Most profits should be higher with increased volume."

Southeastern operation: "Less, due to greater bad debts and more competitive pressure."

Northeastern firm: "More profitable for those who follow the trend of reducing costs along with need for decreasing margins."

Midwestern manufacturer: "Will have to modify present distribution pattern to increase profits. Margins will be less."

Regional firm in the Midwest: "Due to buyers' pressure and competition we expect less profits."

Midwestern operation: "Profits probably will be less for feed manufacturers in 1960 because of the reduced volume. Margins cannot increase. It might even be necessary to decrease the margins, which will reduce profits, particularly if volume also decreases."

Large manufacturer: "Profits will be less due to lower meat and egg prices."

Regional firm in Southwest: "I don't see any hope for any improvement."

Company with sales in Midwest and Southeast: "Unchanged or less. When feeding ratios are poor, feed margins must be smaller if we want to hold volume."

Southwest manufacturer: "Greater, because we believe that the broiler industry will be on a more stabilized basis in 1960 than it was in 1959."

Feed department manager of midwestern firm: "Unchanged. Competition is fierce. We have a very difficult time making a profit because of antiquated equipment and high sales cost."

Firm operating in western state: "(Reduced profits because of) pressure by colleges, county agents, independent advisors for farmers and feeders to 'do it yourself.' Also pointing out by these agencies that certain margins taken by feed manufacturers are excessive on formula feeds and custom work and they (farmers) should therefore do without the work or make their own feeds."

Please make any general comments you care to on the outlook for next year.

There is no trim pattern evident in comments made by manufacturers concerning the general outlook for 1960, but many of the respondents look for a fairly good year, with low feeding ratios and stronger competition within the industry making business harder to come by.

The word "tough" was used by many manufacturers in describing the outlook for the new year. It's possible, some say, that a few manufacturers will be forced out of business.

While one representative said, "We hope we can break even," another looked upon 1960's prospects as "excellent."

Following are some of the general comments:

Midwest: "It will take hard work and wisdom to exist and make a good profit."

Local midwestern firm: "Will be harder to make a profit in 1960 over 1959. Cheap corn means cheap livestock prices."

Western firm: "The outlook for the next year is optimistic. Supplies of feed ingredients are at an all-time high and so is the market."

Southwestern company: "Farm operators are becoming fewer and larger, which makes competition for business keener to the disadvantage of the dealer."

Midwestern firm: "The outlook is good. Competition will be tough, margins will be lower, volume will be greater for the efficient manufacturer. We would just guess that there will be fewer and more prosperous feed manufacturers, feeders and producers as time goes on."

Large firm: "It will be a year of bigger challenge."

Southwestern firm: "We anticipate that 1960 will be another good year—nothing fabulous in the way of profits, but a steady increase in demand for formula feeds. We believe there will be a continued trend of one mill trying to expand its size with many smaller mills, which in turn will serve local areas."

Midwestern firm: "Outlook excellent even though producers' prices will be lower."

Southeastern firm: "Fair year, with increasing competitive pressure from the big feed manufacturers, and also from local mixers."

Regional operation in South: "Feed sales will be harder to come by at a profit. Price pressures will increase greatly."

Western firm: "Looks good but even more competitive."

Northeastern company: "The past few years we have been playing a game called 'musical chairs.' Both in feed manufacturing and in farming the 'odd' boys are being forced out of the game. This process will continue but at a little slower pace."

Midwestern firm: "Looks good to us—good but tough."

Midwestern firm: "Small feed dealers will fade out along with some larger ones."

Local mill: "It is the low cycle we are in now."

Central region: "It should be a good year for the type of business that is aggressive and is capable of making changes. However, 1960 might be a bad year for those companies that are not capable of changing their operation."

Regional firm: "1960 should be a fairly good feed year, but low prices of end products create many problems."

Central area: "We will be pleased if we can show a profit."

Western company: "Cattle feeders in this area expect to lose money on the market, which means going to cheaper feeds and possibly involving manufacturers and dealers in bad credit risks."

Eastern firm: "Surely we must have learned enough from all the mistakes of the past two years to progress in the next year. If we continue to render a service that is needed we will survive."

Clarification Of News Report On Feed Additives

Some misunderstandings arising from publication of a news story reporting presentation of a summary of experimental comparisons of feed adititves in beef cattle rations (Feedstuffs, Dec. 12, 1959, page 85), suggest the need for the following clarification:

1. The summary, prepared by Dr. Wise Burroughs of Iowa State University and three associates, included several qualifying statements pertatining to the sources of data summarized, the kinds of experiments included in the summary and the interpretation that might be placed on the significance of the results reported. For example, the summary included these statements: ". . . in appraising the probable future benefits to the cattle industry from the different types of adititves, we recognize this is subject to change from time to time as additional experiments are conducted and as additional experience is obtained. Therefore, this summary should not be regarded as final. It will require revision as new information becomes available."

The authors of the report also made these statements: "No comparison was included where the treatment contained a combination of additives in addition to those present in the control treatment. Therefore, no conclusions should be drawn from this review as to whether the benefits of any one additive were or were not additive to the benefits of another additive reviewed. Such interactions may be of some importance but were outside the scope of this review."

2. Feedstuffs' sole purpose in publishing information about animal and poultry nutrition research is to help its readers keep abreast of findings reported by college and other research personnel and enable them to make their own evaluation of the significance of the experimental results.

Publication of information of this type, of course, does not necessarily imply an endorsement by Feedstuffs or its editors of the findings reported by authors of research reports.

3. A number of college research reports dealing with feed additives have appeared in Feedstuffs through the past several years, many of which indicate positive values for individual additives. Reference to this information may be made through the facilities of Feedstuffs marketing research department.

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TURKEYS	12	8	12	—	—	8	10
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OUTLOOK

Feed Industry 'Scramble' Expected To Continue Into the 1960's

By ROGER BERGLUND
Feedstuffs Managing Editor

It would be pleasant, in surveying the feed industry outlook for the year and decade ahead, to say that the "Flying Fifties" will be followed by the "Soaring Sixties." But perhaps it would be more accurate to observe that the "Frantic Fifties" are likely to be followed by the "Scrambling Sixties."

There is no doubt that the industry did some flying in the 1950's, recording marked gains in tonnage and in its service contribution to agriculture and food production. But as feed men sought to advance and to adjust to changes in agriculture and within the industry, the past year and decade have not been without their frantic nature.

Since a flip of the calendar page does not really alter basic economic and technological forces at work, entrance into a new year and decade probably will find the industry in the same sort of scramble which has typified a business that is part of a rapidly changing animal agriculture.

However, it is a scramble which, in the broad view, has brought tremendous benefits to agriculture and consumers. And many in the industry, while getting some bruises on occasion, have come through relatively unscathed and continue to look for new opportunities for service and business building. For others, hurts have been and are likely to be quite serious, at least in the short term, and sometimes fatal.

I. S. Riggs, chairman of the board of the American Feed Manufacturers Assn., put it this way in describing tomorrow's successful feed business in a recent talk: ". . . the road to this Valhalla will be strewn with broken bodies, shattered hopes and some abandoned feed mills—not all of us will be able to make it."

Volume Expands

However, feed men are fortunate in one basic respect. They are part of an industry which has been expanding its volume almost without interruption in recent years, and presumably this growth, though sometimes slowed, will continue. This expansion tends to mask industry problems and management errors and permits businesses not only to survive more easily, but to advance in the face of constant and pressing changes.

Physical structure and ways of doing business may change, but the industry has been said to be "made to order for the optimist" who likes to "see business grow."

W. T. Diamond of the AFMA made some observations recently on factors which favor continued feed industry expansion. In addition to a growing population and greater use of animal products, manufactured feeds are accounting for an increasing proportion of total feed consumed. In 1958, manufactured feed accounted for 29% of the total. A direct extension of the overall upward trend would lead to a forecast that 35-40% of concentrated feedstuffs fed in 1975 will be manufactured feed. This could mean an industry tonnage of 65 to 70 million.

Getting back to the nearby situation and outlook, articles elsewhere in this issue of Feedstuffs focus attention on certain phases of the outlook. A story on page 1 summarizes the results of an interesting sampling of trade opinion on volume and trends and problems in marketing. Other articles get into some details on nutritional, production and economic developments and prospects.

In addition, some observations on certain developments and trends follow. It must be noted that a relatively few instances of this or that business development do not make a broad trend, particularly in a business noted for its differences among areas and species of livestock. However, there are certain things which are of interest and importance whenever feed men get together in conversation or when they consider their own specific operations in the light of various changes they have noted.

If one could hold up a mirror as he rapidly flipped the pages of Feedstuffs the past year or so, he would catch reflections of certain developments, trends, counter-trends and problems of current and forthcoming interest. A few of these reflections and other observations follow:

CREDIT AND FINANCING—This is obviously one of the most serious problems for the industry, and it appears that it will continue to be such.

Credit as well as contracting losses are said to be pretty substantial for some firms, and this along with other problems of the feed business may make some profit and loss statements not so cheery reading. There is little doubt that there will be a tightening of feed manufacturer financing of feeders and contractors.

In addition to the problem of bad accounts, there is that of working capital requirements when receivables become great, and this seems to be particularly serious for smaller firms with limited capital. In larger firms, too, feed men note that the tying up of money in credit extension has ruled out desired expansion or plant improvement programs.

Being given increased attention is the tightened money supply and high interest rates. This is expected to reduce the amount of money which feed manufacturers can get or profitably use in financing programs. Also, of course, it cuts into the amount of financing available directly from banks for feeders.

With prices and margins low in agriculture and the feed business, investment in feeding and feed industry operations becomes considerably less attractive than alternative uses of money.

However, there are those who say that capital and financing will be ample for further expansion of large scale feeding enterprises. In egg production, for example, economists look for large operations to expand more than fast enough to offset the decline in small farm flocks.

INTEGRATION—This has been called the most over-worked word of the 1950's, but no one will deny that it continues to be worked and presumably will be into the 1960's. Many maintain that it will continue to increase to the extent that it can result in better, more uniform end products at lower prices. Others still feel that more traditional methods of production and marketing will prevail. In fact, one industry leader predicted the other day that with the "evils" of integration now apparent, we won't have it five years from now.

In any event, it is apparent that some vertical integrators have been badly burned or at least singed in recent months, and cutbacks have been noted. At least some with other types of feed business have pulled out of broilers altogether.

Another longer range question which remains is—who will do the integrating? The feed industry, of course, along with hatcherymen and others, has been the main force, but some authorities say flatly that to be successful, integration or contract farming must have its main point of control closer to the consumer in order to be more responsive to consumer demands—and some segment of the food industry, therefore.

At this point one gets into another question as reflected in recent congressional hearings on the food industry, livestock pricing, etc. Presumably there will be more legislation proposals for certain controls on food marketing organizations as well as controls on production.

At any rate, for many feed men, the situation may be viewed as "hell if you do and hell if you don't." The capital requirements and risk losses because of continued heavy production and low end product prices are serious problems; on the other hand, integrated or other special programs, particularly in certain areas, may be regarded as necessary in order to compete and maintain tonnage.

While some operators may drop out of business and financing may be tightened because of the recent broiler troubles in the Southeast, the observation also can be made that this sort of thing may result in more, or at least closer, vertical integration. If manufacturers are going to risk their money, they may want tighter controls over all aspects of operations and thus become more deeply involved themselves.

Another aspect of this subject is the growth in size and number of so-called owner-integrated operations, where large egg producers, for example, have the whole ball of wax themselves, from production through marketing, including feed mixing. And still another is the broad move on the part of some cooperatives—a move encouraged by some college economists and others — to have "farmers do the integrating themselves," on a still larger scale than has been done by some of the marketing and supply cooperatives in the past.

Whatever does develop, it is apparent that many feed manufacturers have turned more and more attention to market analysis. Some of what might be considered the more conservative companies now have economists closely studying developments in the marketing of feed and end products.

Meanwhile, the low prices on the end products of feeding may be a deterrent in the establishment of new integrated projects in the period immediately ahead. In many cases cutbacks rather than expansion are indicated.

MARKETING THE END PRODUCT—Related to integration, of course, is the marketing of the end products of feeding. So far, it may be noted, this has come largely in broilers and eggs.

One leading feed manufacturer involved directly in marketing says that "it is being forced on us whether we like it or not." Others, even though not integrated very extensively, are active in helping to arrange markets for feed customers.

Another feed manufacturer, with a completely integrated poultry set-up from production through marketing, advised feed men at the AFMA sales conference, "The grass looks green to some when viewing integration. But do not overlook the attendant problems—you take on a vast new management problem."

And that, still another industry leader observed, is the "Achilles' heel" for the feed industry—the problem of getting good management personnel to direct the production and marketing programs.

One man in the poultry and feed industry put it this way: "We must analyze each of our situations and determine whether marketing facilities are adequate. If they appear to be adequate, then feed people will avoid some additional headaches if they stay out of the marketing field. If markets are not adequate, or existing marketing facilities are being used to gain a competitive advantage for competition, then feed people have no choice—they must enter the marketing field to protect their future business. . . . It appears to be a good business to be in only when it is necessary to a healthy feed sales business."

And then, it might be added, at least with recent price situations,

TALKING SHOP—Richard I. Ammon, NEPPCO executive secretary, discusses the problem of adjusting northeastern poultry production targets with Dr. George W. Luke, Rutgers University economist, and Don M. Turnbull, executive secretary, American Poultry & Hatchery Federation. Dr. Luke was one of the key speakers in the two-day eastern "quickie" convention sponsored in New York by the two organizations.

extensive integration isn't so healthy. One manufacturer considers his firm the envy of many others because it hasn't got into some of the serious loss situations that those more deeply involved have encountered.

It appears that many feed firms, especially outside the South, continue to prefer to work with producers in helping to arrange for markets rather than become directly involved in marketing, and with recent losses and low profits, some indicate that they will take more of a coordinated-type approach rather than jump in with both feet.

Whatever the system followed, many seem to feel that there cannot be greater, longer term stability in the poultry field in particular until there is more merchandising of products under well established and promoted brand names that make the products more than just a commodity.

FEED MANUFACTURERS DOING OWN FEEDING — More feed manufacturers appear to be getting directly into their own feeding operations, where they own or lease production facilities in addition to owning the animals or birds. This is as opposed to the conventional contract poultry operations where the feeders own their own facilities.

While this may not have gone far, one can tick off a number of instances in the Midwest where conventional feed manufacturers not previously integrated now have large scale cattle feeding and egg production operations in owned or leased facilities. In the Southeast, West and other sections, too, there are similar cases. Then, of course, there are a number of instances where broiler contractors have transferred all of their broiler growing to farms they own outright or lease and hire labor at regular rates.

Some of the livestock feeding is done by the manufacturer on a custom basis as well as for his own account.

It also has been observed that some of the "demonstration" or "pilot" feeding operations installed by dealers or manufacturers are really on a good-size production basis.

If they have the capital for their own, self-controlled feeding operations, at least some feed firms are seeking the resulting tonnage outlets and feeding profit (and loss) possibilities. Also, some are frank to say that if they lose customers because of changes in feeds or methods of processing and distribution, they expect to get more into their own feeding of livestock in particular. There are some indications that this is being or will be done more by smaller or medium size feed manufacturers rather than the large operators. Various competitive situations and credit problems can be mentioned as reasons for some of the feeding enterprises. Because of problems in connection with more conventional financing, perhaps some will elect to do their own feeding. Also, as some large feeders do their own feed mixing, mills may feel compelled to turn to their own feeding.

Many feed men, for various reasons, will not be interested in establishing their own feeding operations, but there apparently is some increase of interest in it.

At the same time, some of the new feedlot operators who have their own mills are selling feeds or processing services in their areas, thus bringing still more units into the commercial feed industry.

It's getting so that it's hard to tell a feed manufacturer from a feeder without a scorecard.

FEEDERS DOING OWN MIXING — While some feed manufacturers now are doing their own feeding, at the moment there may be more of a trend in the other direction—that is, feeders mixing their own rations. This is in addition to that done more traditionally by the large cattle feedlots.

The on-the-farm mixing may involve concentrates in many cases, but increased use of pre-mixes and super concentrates also has been noted. An official of one feed industry supply firm said a limited survey of farms in a midwestern grain-livestock area showed a "surprisingly large number of farms doing their own mixing." Large egg producing operations which do their own feed processing are fairly familiar. In addition, some of the large turkey growers who formerly used feed company financing now have expanded and strengthened their positions to the point where they buy premixes and make their own feed. Also, more broiler entrepreneurs are said to be using premixes rather than concentrates and making their own feed.

Some premix companies as well as feed manufacturers see a continuing trend in this direction. Periods of low prices and cost-price squeezes appear to increase interest in this type of thing. Also, more encouragement of home-mixing by some college personnel and agricultural publications has been observed recently.

However, some observers say they still are willing to put their chips on the feed industry, saying that the industry, with its investment and know-how, will make whatever changes and adjustments become necessary in methods, service or products.

PREMIXES AND SUPER CONCENTRATES—Related, of course, to farm mixing developments is the reported increase in the manufacture and sale of premixes and super con-

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centrates by conventional feed manufacturers as well as premix or ingredient firms. Greater use of premixes by both local mixers and feeders has been indicated.

One industry observer who is familiar with a wide midwestern area said he could readily name more than a dozen larger feed manfacturers who now offer premixes. In some cases they are listed on price lists for dealers where not very long ago such a thing did not appear. Also of note is that a few feed organizations have been promoting farmer purchase of small grinding-mixing units with which they use their own grain, purchased soybean meal and premixes supplied by the feed company or cooperative.

While for tonnage and other obvious reasons, many feed manufacturers no doubt would oppose developments like this, some expect it to increase for competitive reasons. At the same time, they acknowledge that this leads to questions about utilization of existing feed plant capacity.

COMPLETE FEEDS — Some feed manufacturers have looked for greater use of complete pelleted feeds for livestock as well as poultry, handled in bulk through bulk stations or bulk dealer set-ups, and have actively pushed such programs.

Others do not feel this sort of thing will gain, or they think that it will be done on a local basis by dealer-mills or local independent manufacturers. Many of these local firms have built substantial businesses with complete swine and poultry feeds delivered directly into feeders.

At the same time, some feed men cite service, nutritional know-how, financing and other reasons for expecting further gains in sale of complete pelleted feeds by larger firms as well as local manufacturers and dealer-mill operators.

In the immediate future, however, with continued low end product prices in sight and large supplies of grain, for many the problem will be in selling just supplement, to say nothing of complete feeds.

Comments on complete feeds in general also raise immediately a discussion of complete feeds (including the roughage) for cattle and lambs. Reports from feeders indicate quite a growth in pellet use. In the feed industry itself, there probably has been more conversation and speculation than action. As would be expected, most of the action has been in smaller mills serving nearby feeders. Also of interest is a recent report that many of the large cattle feeders who use "complete" pellets feed some loose hay with the pellets, indicating that gains are better and other problems are prevented.

DISTRIBUTION — Differences in opinions on and approach to methods of feed distribution continue, as might be expected.

Representatives of some larger firms say they see no alternative to selling feed directly to larger feeders if they are to be competitive in costs.

Others maintain that they will hold to the dealer system, but where practical the emphasis will be on local grinding and mixing and bulk feed service by better dealers who also are capable of rendering good service in the way of feeding advice, help in marketing, etc.

Some of the medium-size and larger firms indicate they are putting increased emphasis on bulk in their sales efforts. Even in so-called diversified farming areas, they tell of wholesale-type plants putting out more than half of their production in bulk.

Also of note are the problems and adjustments as feeders become fewer and larger—a continuation of a trend which has had more than its share of discussion.

CAPITAL AND OTHER PROBLEMS — Reports indicate that some so-called medium-size feed manufacturers are having their headaches or potential headaches because of the changes in agriculture, credit problems, and difficulties in changing distribution patterns or meeting the capital requirements for integrated or other special programs they may feel are necessary. Some industry sources tell of further possible mergers or acquisitions by larger companies.

Also, because of difficulties in breaking into new areas, some companies with expansion in mind probably are more interested in purchasing established businesses than in going in on an entirely new basis.

LIVESTOCK EMPHASIS—A number of factors lead to the observation that both feed firms and their suppliers may be expected to swing increased attention to possibilities in livestock feeding.

For one thing, of course, the continued heavy production and low prices and profits in the poultry field are enough to dampen enthusiasm for poultry.

Also, much of the poultry industry is well saturated when it comes to use of formula feeds and complete feeds. The potential appears much greater in livestock, where formula feed usage as a percentage of all concentrates fed is not nearly so great.

In the year immediately ahead, turkeys as well as livestock may get more attention, reflecting the favorable price situation at the close of the 1959 season.

So far as livestock are concerned, the ruminant field attracts much interest. Adoption by feeders of new techniques and new technology has been relatively much slower in the beef cattle and ruminant field than in other phases of animal agriculture. And if science and industry can come up with more significant developments in nutrition and processing techniques, the potential appears great.

SMALLER PLANTS — The decentralization trend in the industry apparently has been continuing in many areas, with some of the larger wholesale-type manufacturers building, buying or leasing smaller plants to serve nearby feeders and dealers.

For example, one large firm tells of having no mill farther than 75 miles from any customer. Another

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company is said to be thinking in terms of a mill every 100 miles in the grain-livestock areas.

Some manufacturers talk of having satellite mills and shipping premixes or concentrates from large central plants to them for local mixing, or some may continue doing this through dealer-mills but perhaps on a larger or more elaborate basis. For example, some of the local "super service" dealers now have complete mill facilities, including pelleting operations.

For reasons of service, transportation costs, competitive situations, expansion programs, etc., many think the decentralization moves will continue.

Related to the local milling development, of course, is grain banking, which has mushroomed greatly in the Midwest in particular. A Purdue University survey in Indiana showed that half of the grain and feed firms offered a grain bank service.

PRODUCTION EFFICIENCY—Just as their customers have had to improve the efficiency of feeding operations in the face of low prices and margins, feed manufacturers have had to step up efficiency of feed manufacture through plant improvements, new mills and better mill management.

In fact, some feed men are frank to admit that without better facilities and cost control they could no longer hold their place in the increasingly competitive industry.

This emphasis on efficiency no doubt will continue. For example, some engineers say they would not consider building a new mill unless it was designed and operated to produce feed with a labor requirement of a fraction of a man-hour per ton.

The general situation has, of course, resulted in a large share of ingredients being handled in bulk and the installation of facilities with "automation" of varying degrees. Many of the smaller mills can now be operated with only a couple of men.

Assuming unit costs of overhead and distribution also can be held down, the efficient production facilities can go a long way in helping the feed industry as now constituted maintain its place in the agricultural and food economy.

PLANT CAPACITY—Moves to expand operations, build new businesses or improve manufacturing efficiency have brought tremendous increases in feed manufacturing and mixing capacity at all levels. Fortunately, the feed business has been an expanding one, helping to take up the new capacity. Even so, the highly competitive nature of the feed industry has been attributed in considerable measure to the big capacity situation.

An AFMA report indicates that new plants built the last few years have an annual capacity of well over 1 million tons—and that is probably quite conservative. In Iowa alone, it is not difficult to see an increase of hundreds of thousands of tons. Georgia is another state with a lot of added capacity.

On top of the capacity of the larger plants, there is the huge gain in concentrate mills and local custom and retail mills in poultry areas and grain-livestock areas of the Midwest especially.

DRUGS AND CONTROLS—Of major concern to feed manufacturers and suppliers is the situation which has developed in federal controls on additives and feeds. This applies not only to the immediate problems stemming from the Delaney clause, but also to prospects for new products, whose developmental costs can be increased tremendously because of testing and other problems.

One aspect of the current situation is found in problems resulting from the "freeze" on certain types of formulas. For example, some nutritionists say they have potentially significant improvements ready to put into effect in feeds, such as in protein levels and use of amino acids in poultry rations, but cannot do so because supplemental new drug applications cannot be cleared.

SURPLUS GRAIN—The continuing growth of the nation's feed surplus is one of the important long-term problems for the feed industry as well as agriculture generally.

So far as the nearby situation goes, big grain supplies along with low end product prices can mean less use of formula feed by farmers particularly conscious of out-of-pocket costs.

In addition, as one economist put it, "today's feed surplus is tomorrow's livestock surplus." Continued excess supplies of grain cannot help but encourage production of meat in volumes that must be sold at less than profitable prices.

PROCESSING—Some persons feel that possibly one of the major future developments in feeding will be in the processing of feed to improve nutritional value or influence feeding results. Research on cooking and pelleting and starch gelatinization has been mentioned in this connection. At the same time there are reports of further developmental work on units to accomplish these or similar things affecting the composition or physical form of feed. In addition to changes which enhance the value of nutrients, perhaps more will become known about eliminating the effect of growth-inhibiting substances.

In connection with processing developments, one may note the growth of interest in full-fat soybean products.

LINEAR PROGRAMMING—While the use of large electronic computers or computing services may not yet have become really extensive, there are those who think that the linear programming technique and necessary facilities to formulate least-cost rations will become very

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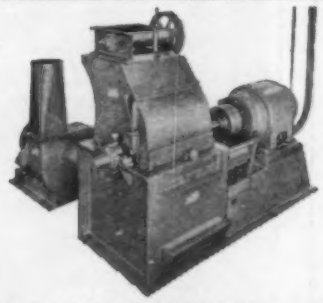

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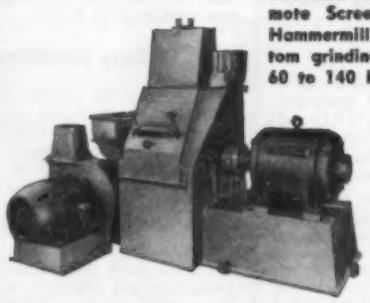

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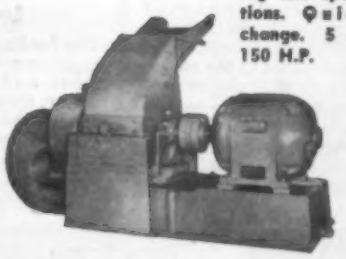

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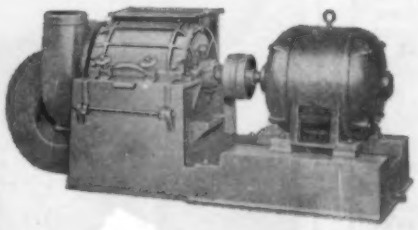
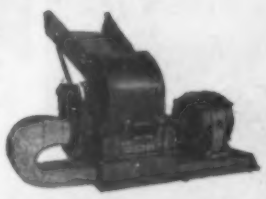


Jacobson UNIVERSAL "Junior" Hammermill. 3 sizes; 10 to 50 H.P.

Jacobson AJACS Model "IT" Hammermill. 4 sizes; 20 to 100 h.p.



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important. In some cases, simplified systems and computers are at least in the experimental stage, which could broaden use of the technique.

Related to this development is the assertion that use of linear programming may bring some significant alterations in existing ideas on formulation and percentages of ingredients.

CRITICISM OF INDUSTRY—Comments by feeders, college personnel and others at conferences and elsewhere seem to indicate increased criticism and questioning of segments of the feed and allied industries and their products. Perhaps this is to be expected in an era of low prices and low margins for agriculture and its suppliers.

At any rate, it looks as though industry faces a bigger job in the way of efficient operation, effective service and skillful promotion of feeds and ingredients which have been shown to improve practical results on farms and feedlots.

AREA DEVELOPMENTS — In the feed business perhaps more than in most types of business, one certainly cannot generalize. At any rate situations vary considerably by area.

For agriculture and the feed industry in the Northeast and Delmarva, a major concern has been competition from other areas, the southeastern poultry industry in particular. Strong efforts are being made to get freight rate reductions on rail transportation of midwestern ingredients in order to compete more evenly on feed costs. A report from one part of the region indicated that feed production was well under 100% of eight-hour plant capacity.

Agricultural leaders in the Southeast have been predicting and encouraging livestock expansion to follow up the poultry industry growth. Perhaps feed firms, seriously hurt by low poultry price problems, also will be more interested in livestock diversification. While livestock expansion in the Southeast may continue, some see the Corn Belt still holding on a percentage basis to about the same level in swine as before.

A combination of such things as more livestock and turkeys, greater use of formula feeds and complete feeds and emphasis on milling efficiency has resulted in a tremendous boom in recent years in the building of both larger feed plants and custom mills in parts of the Corn Belt. In Iowa alone, there are perhaps a dozen relatively new plants of considerable size. Some of the local operators of stationary and mobile mills have enjoyed marked success. Of course, all of the new units add to the competitive situation, and with lower livestock as well as egg prices, the situation becomes somewhat more difficult.

Drouth hurt agriculture and the feed business in the Southwest in recent years, but some are optimistic about continuing growth in the future. For one thing, this is the second fastest growing population area in the U.S. Also, more cattle finishing is expected with expanded grain sorghum production, and more hog production has been encouraged. Poultry expansion has been noted, too, of course, in parts of the region.

There has been further feed business growth in the Far West, but some firms also have suffered from tough competitive situations in some areas, and the number of larger independent manufacturers in the area has declined. Meanwhile, some persons are predicting significant livestock expansion in the West, partly because of the population growth but also because of greater grain production west of the Rockies.

Reduction in wheat acreage and expansion of barley production in the Northwest could result in much more livestock feeding and finishing as well as continuation of range operations on ranches in the northern Great Plains and mountain sections. Some persons predict a significant move eventually in this direction.

In comments on the situation generally, it has often been said that the trend is toward production of meat, milk and eggs closer to points of consumption. However, many existing mills in large population areas may be hurt by surrounding urban development and high labor and land costs for agriculture. Also, one can readily cite cases where poultry products in particular are shipped to markets long distances from lower cost production areas.

On the other hand, improved feed efficiency can make ingredient shipment less important, and mechanized confinement operations can put meat and egg "factories" practically next door to markets.

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U.S.I. FEED NEWS

Vol. VI ★ A SERIES FOR SCIENTISTS AND EXECUTIVES OF THE FEED MANUFACTURING INDUSTRY ★ No. 8

Ethanol in Liquid Feed Improves Cattle Gains

Recent experiment station research shows that ethanol in a liquid cattle feed supplement improves the gains and health of the animals over an identical ration without ethanol.

Cattle in two groups were fed liquid supplement, cottonseed hulls, minerals and water, separately and free choice. The liquid feed contained urea, molasses, phosphoric acid and trace minerals with and without ethanol (ethyl alcohol). Because the non-ethanol ration left the animals in poor condition, milo and alfalfa meal were added to both rations after 92 days. The ethanol-fed heifers continued to gain faster.

These studies support the findings of earlier tests in which ethanol improved results with similar rations containing corncobs instead of cottonseed hulls as a source of cellulose. Some experiments in other parts of the country have not shown the same high values for ethanol feeding because some components of the ration were not available free-choice.

These results indicate the importance of following the 5-point feeding program recommended to users of MOREA liquid feed, the only patented feed supplement containing ethanol.

Feed Men Find Profitable New Markets As Mixer-Distributors of Liquid Feed

One Product Serves Beef, Dairy and Sheep Growers

The liquid feed business is a natural for the feed man who is weary of high labor costs, integration, complicated inventory and formulation problems. MOREA liquid feed for ruminant animals provides in one product the ideal supplement for beef cattle, dairy cows and sheep. In recent years a great deal has been written on the success of MOREA feed mixer-distributors.

The best sales records have been made by firms that have staffs calling on farmers, who are able to advise on a balanced feeding program. Beef and sheep men using the liquid feed program develop fast gains at low feed cost, and produce high quality meat with less waste fat. Dairy farm users are getting increased milk and butterfat output at lower feed cost.

Low Investment

The feeding program for this liquid supplement stresses good management and ready availability of water, minerals and roughage. The liquid feed saves much labor and is easy to feed even in winter.

For mixer-distributors, the low capital investment in storage tanks, pumps, pipelines and delivery tank trucks also proves highly attractive, as they can easily handle a large volume of business with this liquid product. MOREA liquid feed is formulated by combining MOREA pre-mix with an exact quantity and quality of molasses. The MOREA pre-mix is supplied to mixer-distributors in the Great Plains and Midwest by Feed Service Corporation, while U.S. Industrial Chemicals Co. supplies mixer-distributors primarily east of the Mississippi and west of the continental divide.

Easy Handling

On delivery to farms, the finished product is pumped into storage tanks, usually in specially designed storage-feeder units. Distributors have made faster sales by making such storage-feeder equipment available to farmers at low cost.

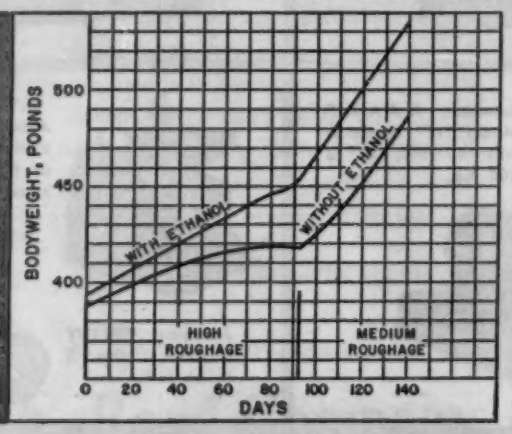
Results of the MOREA feed program throughout the country have been so good that some mixer-distributors are getting repeat orders from 95% of their customers on a year-round basis. Users find their animals produce well on liquid feed with inexpensive, high-cellulose roughage and little grain. In areas of plentiful grain, feeders find it also makes a high-grain ration more efficient.

Territories Open

While thousands of farmers can get MOREA liquid feed from nearby mixer-distributors, certain territories are still open. Firms with a sales staff calling on cattlemen and dairy farmers are ideally qualified. For full information, write on your business letterhead to U.S.I. at the address below.

Effect of ETHANOL on Growth of Heifers Fed Roughage

From data in La. State Univ. A. I. Mimeo Circular 59-11



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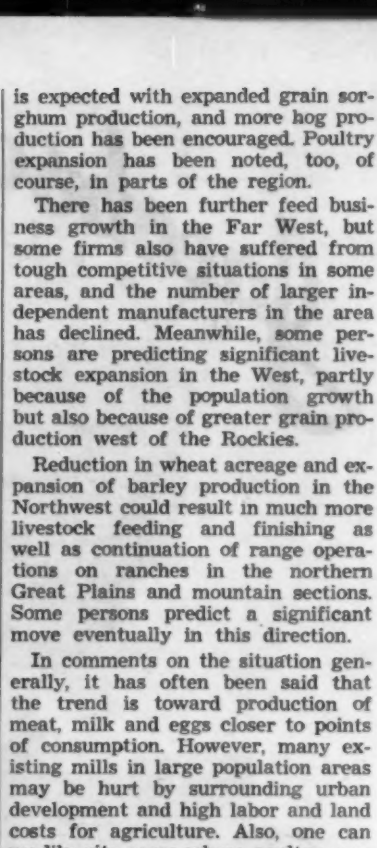

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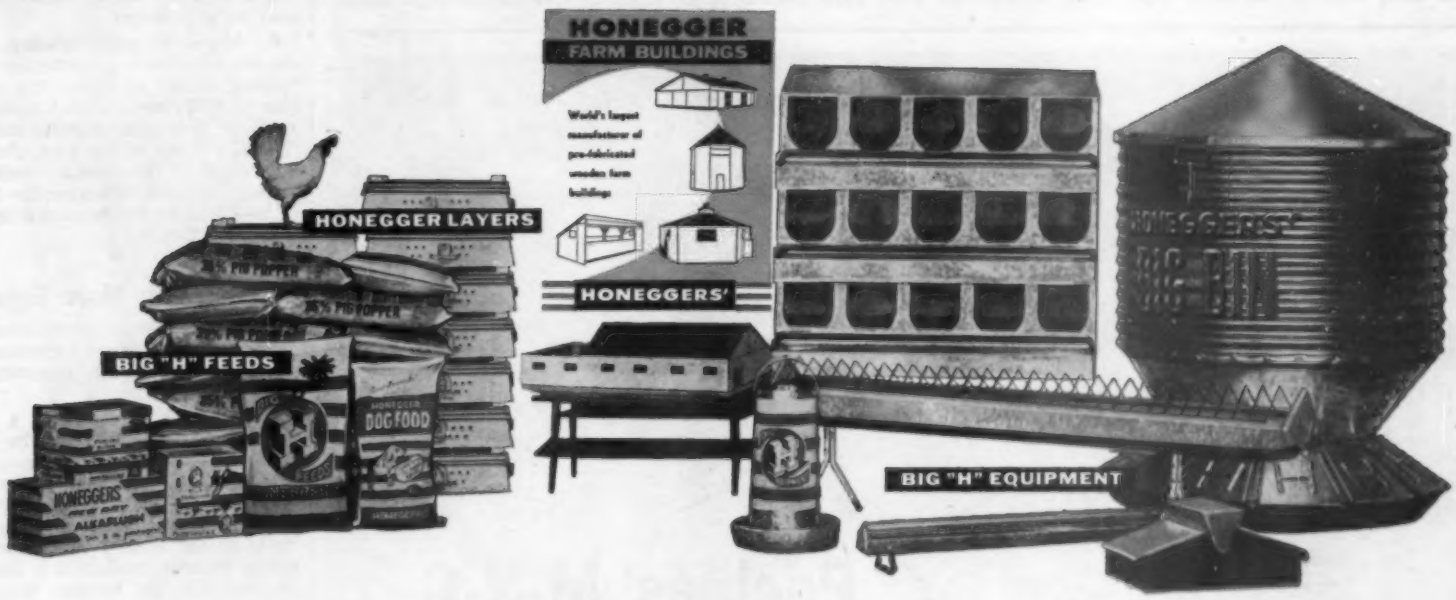

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IDEAS TO HELP YOUR CUSTOMERS

Upgrading Dairy Profits

Records, breeding, feeding, management and quality are the five words which can mean bigger milk checks for dairymen.

To find out how, we'll consult M. N. Deutsch, U.S. Department of Agriculture dairy husbandman, and Dr. C. L. Cole, head of the dairy husbandry department at the University of Minnesota. They recommend the following five-step plan for increasing dairy profits:

1. Keep production records. There's a choice of standard D.H.I.A., Owner-Sampler and the Milk Production Record and Culling Guide. County agents have details on each plan. Using information from such records, DHIA herds have been able to increase returns from labor.

2. Develop a good breeding program. The dairyman should make sure his cattle have inherited ability to produce large quantities of milk and butterfat according to their feed. It's best to breed cows to sires proven in an artificial breeding association. If proved sires aren't available, a young bull with an ancestry of proved sires and dams may be used. University and USDA research shows it may soon be possible to "insure" 10,000-lb. producing cows by following good breeding and management practices.

3. Choose a good feeding plan. It's important that cows get enough energy, protein, minerals and vitamins. The value of home-grown feeds, pastures and other forages is improved if they are harvested and stored to save a high percentage of the nutrients. Early cutting, for example, increases net energy percentage of hay by 24% over late cutting.

4. Manage carefully. Labor, machinery and equipment must be used efficiently these days. Dairymen should self-feed hay and silage wherever possible; use plenty of bedding in winter; practice sanitation; wash and wipe the udder before milking, and use a strip cup to check on abnormal milk. Cows need a 6-8 week rest period between lactation periods. That long a wait can boost production 10% over no dry period.

5. Maintain milk quality. Milk should be cooled immediately after milking to 50° or below. It's a good idea to feed strong-odored feeds, such as silage, only after milking and after the milk is out of the barn. Pastures kept free of poisonous weeds and seeds that cause objectionable flavors in milk will do much toward improving milk quality.

●

Warm Hens: More Eggs

Insulating a cold laying house can go a long way toward improving egg production — in both quantity and quality.

Reporting the results of a three-year study conducted by the South Dakota Agricultural Experiment Station, Dr. C. W. Carlson, poultry specialist, says hens will lay more eggs in an insulated house, and eggs laid in insulated houses are cleaner. A house without insulation is likely to be wet, leading to wet litter and dirty feet and nests.

Dr. Carlson points out that hens in non-insulated houses may later make up for production lost due to cold, but there would usually still be an advantage in an insulated house because egg prices are higher in South Dakota and other northern states during the winter.

●

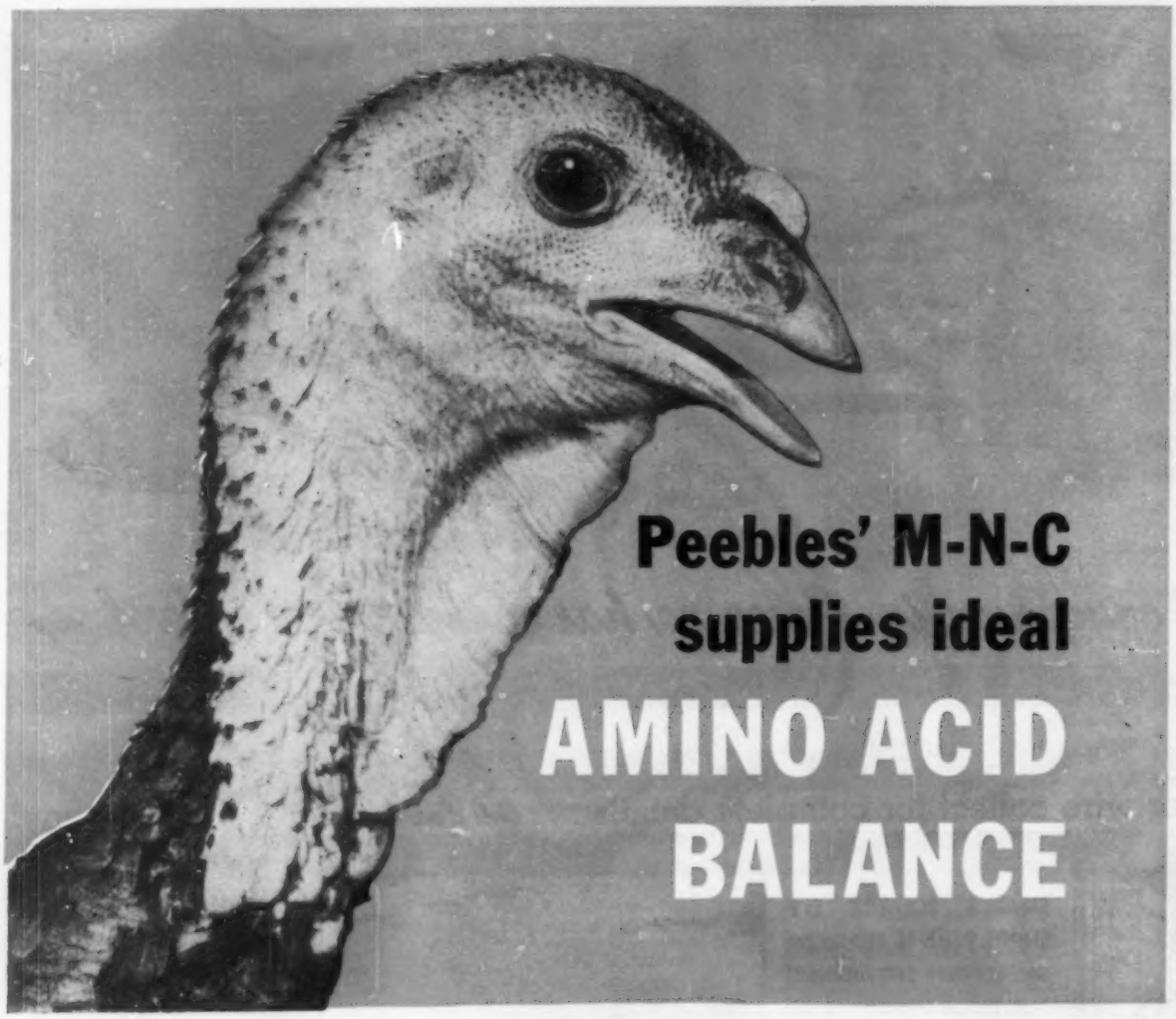
Swine Flu Time

This is the time of year when swine herds are most likely to become infected with influenza, which seldom kills many pigs but can hurt profits.

The producer who does what he can to prevent the acute, highly contagious disease, or takes corrective steps as soon as he discovers symptoms in his herd is the one whose hog program will be least affected.

First of all, says Dr. R. B. Solac, University of Minnesota veterinarian, pigs should be well bedded and free

(Turn to BULLETIN BOARD, page 81)



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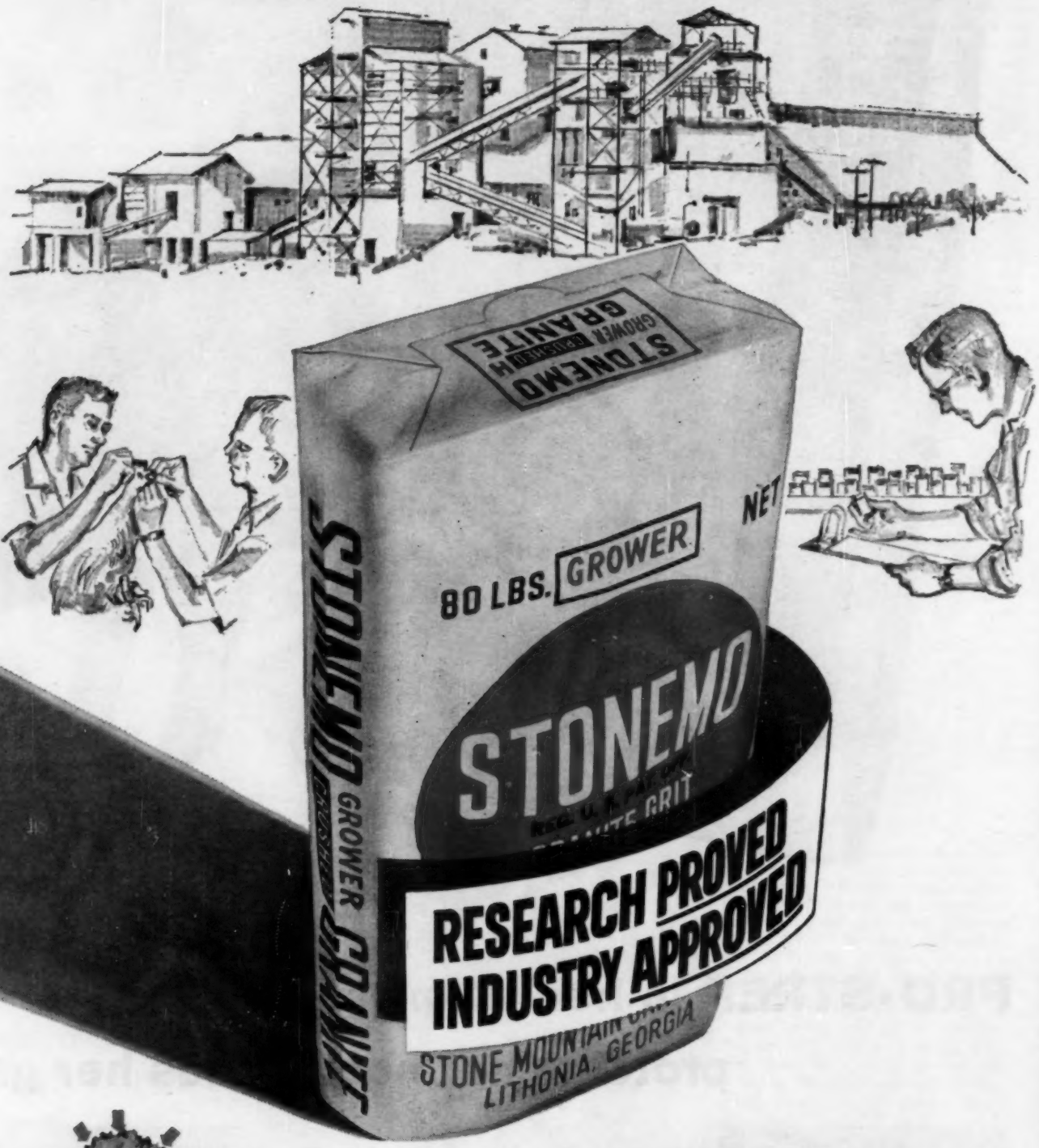

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The Grit with the "EXTRA GRINDING SURFACES"

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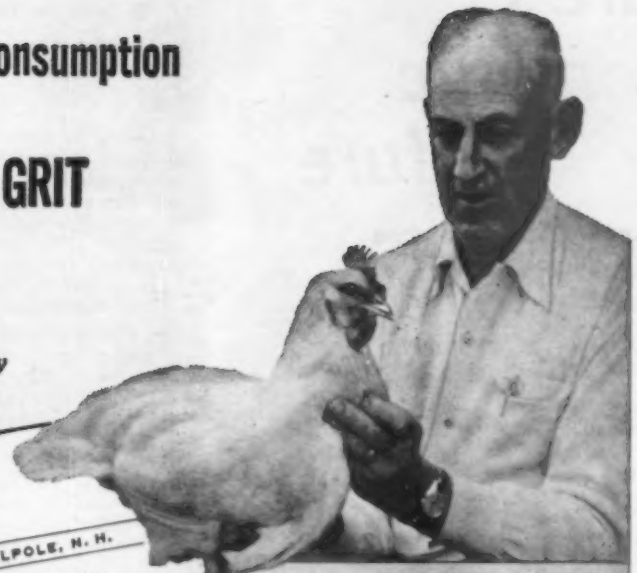
"We find oyster shell consumption will double where STONEMO GRANITE GRIT is not available."

says

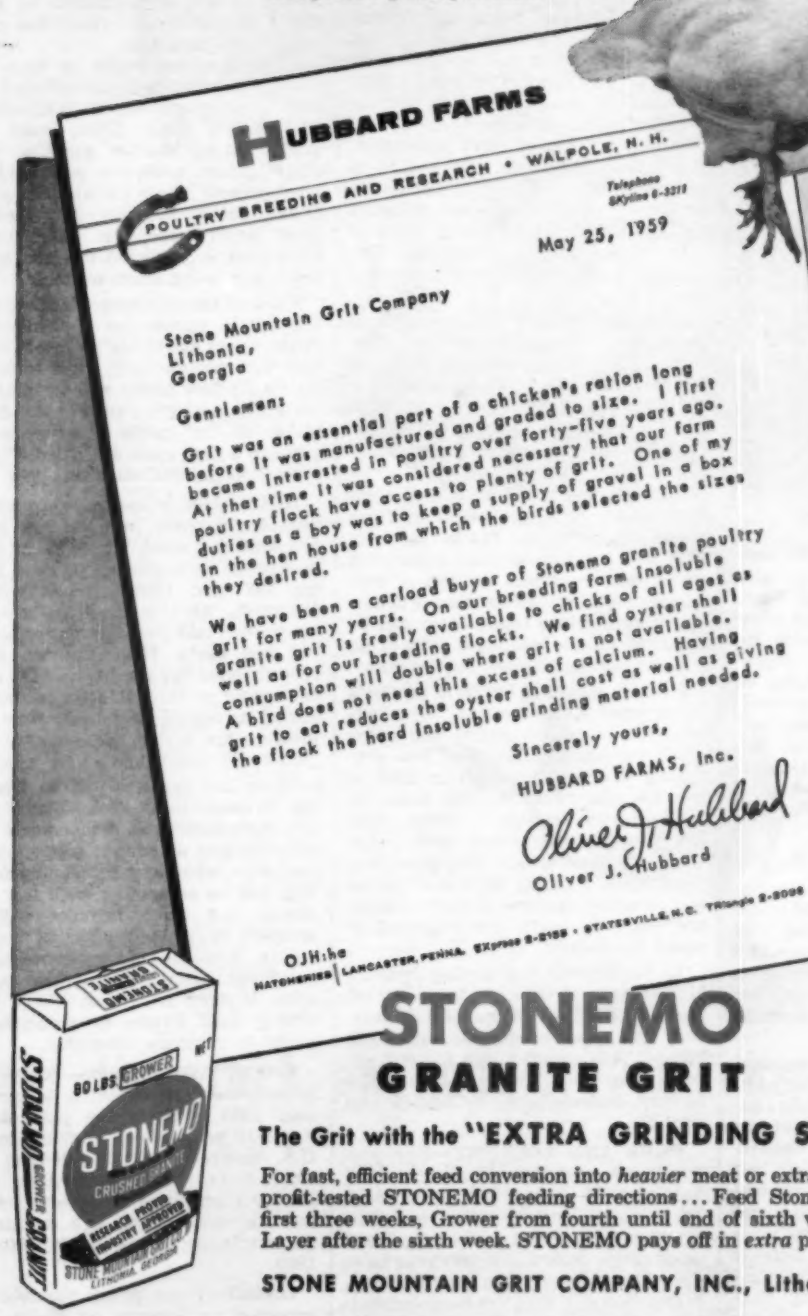
Oliver J. Hubbard

nationally recognized authority and pioneer poultry breeder



Oliver J. Hubbard, above, selects a Hubbard **39** Breeder Pullet.

Below, the White Mountain Entry, progeny of the Hubbard 39, which led all competition in income over feed and chick cost in the Ninth California Official Random Sample Chicken Meat Production Test.



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Sincerely yours,

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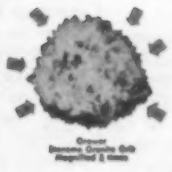


STONE MOUNTAIN GRIT COMPANY, INC., Lithonia, Georgia

OUTLOOK

- **Cost-price relationship will continue to encourage farmers to leave farm, seek employment elsewhere.**
- **Slight improvement in egg prices seen.**
- **Beef cattle, sheep and lamb prices expected to hold near present levels.**
- **Relatively low hog prices to continue.**
- **Net income from dairying to equal or exceed 1959's.**
- **Feed supplies to remain at more-than-ample level.**

Agriculture's Economic Future

By Dr. Leonard W. Schruben
Kansas State University

The primary purpose of this look into agriculture's over-all future is to help feed men and their customers make plans for 1960. Careful study of economic information forms a foundation for estimating probable trends, even though there's no certainty that any forecast will turn out to be correct.

It was assumed when this was written, although not predicted, that: International tensions will be relaxed somewhat compared to that which has prevailed in 1959; inflation will be held in reasonable check, although the federal budget will be operated at a deficit, and industrial wage rates will keep pace or exceed increased efficiency (both powerful forces on the side of further inflation); that a depression of major consequence will not occur; most people seeking employment will find jobs although some unemployment will continue; over-all spending by federal, state, and local governments will at least equal, if not actually exceed, that of 1959; that 1960 will be a year of considerable labor unrest, and that the election of 1960 will be uppermost in the minds of Congressmen, Senators and the Administration when considering farm problems.

If fundamental changes occur in any of these assumptions the outlook is also likely to be changed.

GENERAL SUMMARY—Generally, favorable economic conditions are expected to prevail in the U.S. in 1960. More people will be employed which in turn means more money in consumers' pocketbooks. The recent recession appears to be a thing of the past and the nation, as a whole, is headed for another period of comparatively prosperous times.

There is considerable uncertainty about labor-management relations. Strikes could upset the apple cart. Farmers are not likely to share in this prosperity. Farm income probably will decline in 1960. Debts will be more difficult for farmers to pay and accounts receivable likely will remain in the books of farm supply business for a longer period.

The return of prosperity is expected to touch off another round of inflation being fed both by government deficit financing and wage increases. Prices for industrial goods are likely to be higher in 1960 than in 1959 for most items. Machinery and equipment bought by farmers will be higher priced in 1960. The farm cost-price squeeze will continue.

From an over-all income point of view, 1959 was a year of declining farm income for farmers. Furthermore, farm income in 1960 is not expected to hold up to the 1959 level. Downward pressure for many farm products will be experienced in 1960 because of tremendously large supplies. Large stocks of feed grains, wheat, soybeans, cotton, tobacco, all push down on farm prices. Total income of farmers in the U.S. is expected to decline from 5 to 7% below 1959.

Dr. Leonard W. Schruben

AUTHOR—Dr. Leonard W. Schruben, a professor in the department of agricultural economics at Kansas State University, is in charge of that institution's grain marketing research. He teaches courses in marketing, supervises recording and interpretation of economic information, serves as consultant to farm supply firms and as a consultant to the Agricultural Research Service of the U.S. Department of Agriculture. Dr. Schruben writes "Up or Down," a regular column in Feedstuffs.

Farmers will pay higher wages, taxes will continue to go up and interest rates for borrowed capital will advance. Prices of things farmers buy from industry are likely to advance on the average. Prices farmers pay for things produced by other farmers aren't likely to advance.

It isn't a pretty picture income-wise for farmers in 1960. The cost-price squeeze will continue to encourage farmers who can to leave the farm to seek employment elsewhere. Other farmers will tighten their belt and keep on farming as they will learn new and improved ways of running their business. Even the most efficient farmers will find it difficult to earn a return for capital and management comparable to many non-farm occupations. However, some bright spots are expected to shine in the farm economy situation of the new year.

OUTLOOK HIGHLIGHTS — Farm production expenses of 1960 are expected to be higher than those of 1959, making another year of rising costs of production. This applies especially for products and services not farm-produced. Wages have been continuing upward, and prospects point to their going higher in 1960. Farm property taxes, interest and other off-farm supplies are also expected to advance. Fertilizer prices are expected to hold steady and manufactured feed prices may decline to somewhat lower levels.

Prices farmers receive for things they sell also are expected to average below 1959 levels. Everything considered, farmers as a group are likely to find their economic situation in 1960 worse than 1959.

Living expenses are likely to increase as further inflation forces prices up. This will not be an across-the-board increase—changes in price levels seldom are. Food will remain plentiful and cheap with price declines partially offsetting increased prices of hard goods. Consumer credit has room to increase, adding further to inflationary pressure.

Inflation, however, isn't automatic. Productivity capacity in the U.S. is sufficient to meet foreseeable demands barring a war. Excessive inflation could lead within a couple of years to a bust and major depression. The business cycle isn't under control—yet.

Domestic demand for agricultural products is expected to increase even though the amount spent for food per person is not likely to be a great deal different in 1960 compared to 1959. This means total expenditures for food in 1960 will exceed 1959 due to increased number of people.

Consumption will continue to shift to livestock products and away from cereals and potatoes. Marketing margins will increase as food processing firms seek to attract the eye of consumers with built-in services. Further investigation into this matter can be expected to continue, with little or no concrete action to show for the effort.

Foreign spending for farm products is expected to hold steady. The outlook for increased wheat and other grain exports is somewhat less promising than was realized in 1959. A considerable effort will be made by this country to export wheat, soybeans, grain sorghums and other grains under various programs. Exports of feed grains set a new record last feeding season. Exports during the current season are expected to equal this record.

In the 1958-59 year ending June 30, U.S. exports of farm products totaled about $3.7 billion. In the 1959-60 year, they are expected to total about $4 billion. This would make the current fiscal year the third highest in U.S. history, exceeded only by 1956-57 and 1951-52.

EGGS AND POULTRY—Egg production in the U.S. during the first half of 1960 is expected to be lower than in the corresponding period a year earlier. Unfavorable egg-feed price ratios during the past year have discouraged flock expansion. However, production per hen has been increasing so that a proportionate reduction in egg production isn't expected. Over-all prospects indicate a slight improvement in prices over those of corresponding months of 1959 with as much as 5¢ doz. above last year during spring and summer months.

Broiler production is expected to decline the first half of 1960. If prices received by growers thus improve, increased production the last half of 1960 could be the consequence. A voluntary reduction of production with accompanying higher prices has provided notable failures in the past. There is little indication in the present broiler situation that it will work in this industry.

The 1959 turkey crop set a record of 82 million birds. With prices holding fairly firm during the windup of the marketing season, another large crop can be expected in 1960.

BEEF CATTLE—Beef cattle prices remain as a fairly favorable prospect for 1960. Cattle numbers are increasing. Cow and heifer numbers declined in 1955. During 1956, declines occurred in all classifications of beef cattle. However, this trend has definitely been reversed.

After numbers begin to turn up, slaughter trends will be curtailed for about two years due to withholding of breeding stock. Thus, from the standpoint of market supplies, beef cattle prices probably will hold to near present levels for another year. Other factors, however, may tend to limit profit prospects. Competition from pork is expected to exert some price depressing effect on beef.

Sales of manufactured feeds to fatten cattle appear on the increase. When prices are at higher levels, markets for manufactured feed broaden. Cattle feeders likely will be pushing for early marketing to beat the down phase of the cattle price cycle. If you are a feed man, you should be in a position to build sales this year.

HOGS—Hog prices are expected to remain relatively low through 1960, although not much if any lower than during the same periods of 1959. During 1957 and 1958 hog prices were favorable. At this time the groundwork was laid for another phase of the hog cycle. Never before, since records have been kept, was the hog-corn ratio so favorable for as long a period as during that time. Now hog growers are facing the music of low prices—$5 cwt. below a year ago.

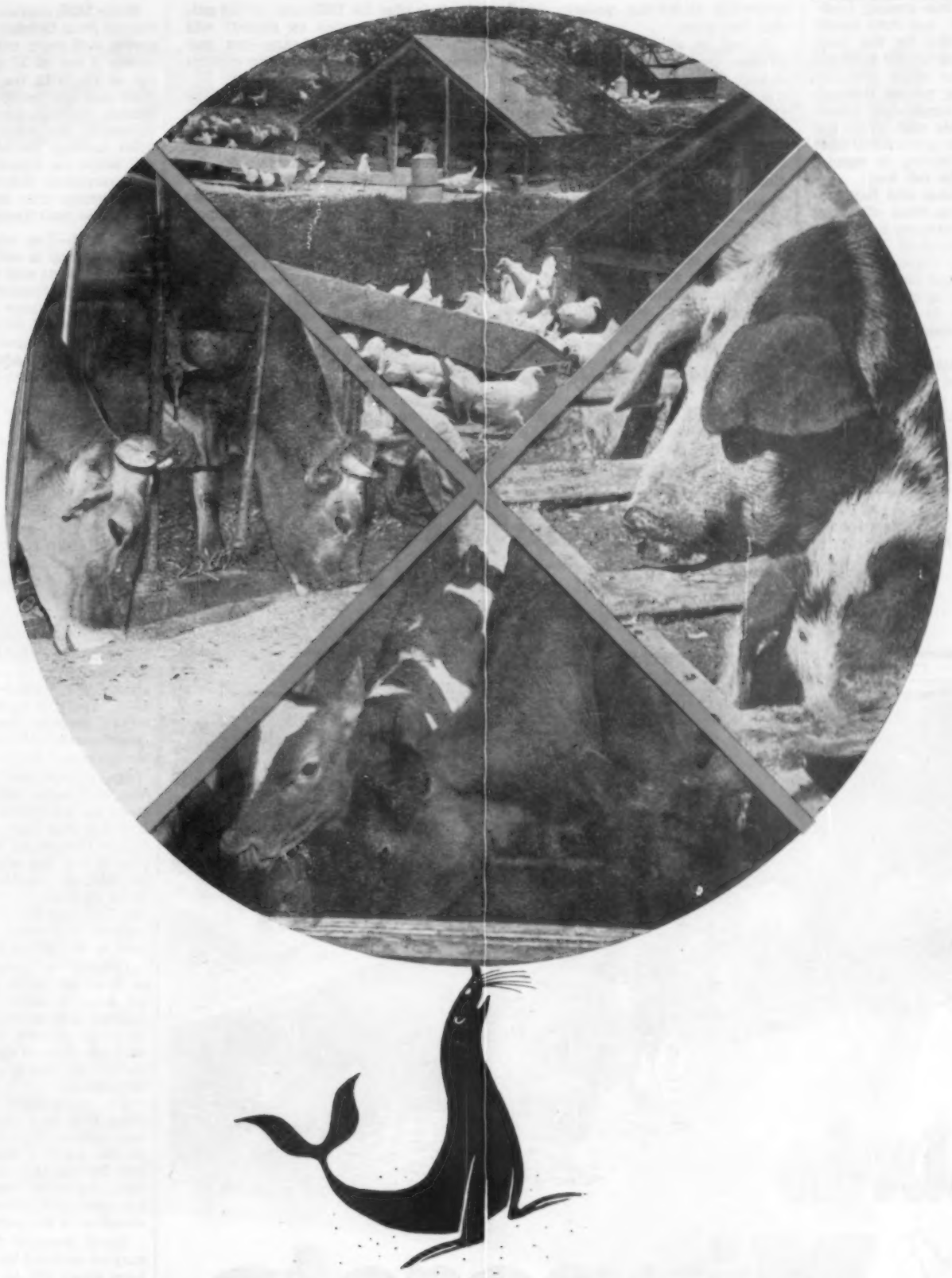
Many hog farmers will be looking for cheaper gains. You should take the opportunity to demonstrate the effectiveness of proper supplementation even when hog prices are down. You will be competing with low cost grains and some farmers will be tempted to reduce feeding of supplements. You need to concentrate on providing minimum cost per pound gain. Volume will then likely take care of itself. Proper supplementation ought to compare favorably.

SHEEP AND LAMBS—Sheep and lamb prices are expected to remain near 1959 levels in the year ahead. For 8-10 years sheep numbers in the U.S. hovered near an all-time low since records were started in 1867. However, numbers have been increasing for two years and a further modest increase can be expected in 1960.

DAIRY—Dairy prices for 1960 are expected to average at about 1959 levels. Favorable milk-feed price relationships, increased production and higher retail prices are expected. Higher beef cattle prices have enabled dairy farmers to cull herds.

Milk output, on the other hand, will continue at a high level due in part to favorable milk-feed price relationships encouraging heavy feeding as average production per cow continues its upward trend. You can expect the net income from dairying to equal or exceed that of 1959.

PROTEIN SUPPLEMENT — Protein supplement supply and demand



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is in close balance this coming feeding year (1959-1960) and may result in fairly steady prices for the year as a whole. Declining prices through mid-November quite often are followed by advancing prices through spring, but protein supplement prices don't always act this way. With the buildup of livestock production, odds favor some strengthening in supplement prices after the fall low.

Decreases in soybean and flax production will be more than offset by the expected 27% increase in cottonseed supplies. A total of 11,494,000 tons of oilseed meals (in terms of 44% protein soybean meal equivalent) is possible. This would be approximately 292,000 more tons in 1959-60 crop year than were available during 1958-59.

The key to the supply-demand balance is the pounds of protein available per animal unit. An animal unit is one dairy cow or equivalent. The quantity of oilseed protein per animal unit is likely to be less than last year. However, over-all supplies would still be somewhat above the quantity available last year.

It will be wise to check prices of protein supplement because they change frequently and the one that is the best buy at one time may not be the best buy at some future time. Increased numbers of livestock of all kinds will increase the feeding potential for high protein supplementation.

SOYBEANS—Keep a sharp eye on soybean prices! You can't afford to go to sleep this year.

Each of the last five crops prior to this year set a new record in soybean production in the U.S. Acres planted increased from 1 million in 1932 to 24 million in 1958. Plantings totaled 22 million acres in 1959. The decrease in 1959 from 1958 was caused in part by the lifting of planting restrictions on corn.

Last year's 574 million bushels were more than was used during the crop year ending Sept. 30, 1959. Old-crop beans on hand totaling 62 million bushels plus the 1959 crop of 528 million (second largest or record) will provide plenty of beans—but not much of an oversupply above current needs.

Production has been increasing by leaps, but so has the market. Vigorous efforts by soybean producers, handlers and processors have resulted in a market expansion matching the increased production.

Soybeans give us oil and meal. At present the oil market doesn't support very high prices. Oil prices are at the lowest level since 1941 and this is encouraging its use. When oil prices are low, meal carries a heavier share of the price of soybeans. If oil prices improve, some reduction in meal price is possible, but most likely such an increase would result in higher prices for beans. Use of meal is expanding. Look at the increase in livestock feeding!

Soybean prices are famous for rapid change. They go up in a hurry and they have been known to fall just as fast.

Since 1925, soybean prices have advanced from October to the following spring in 8 years out of 10, remained steady 1 out of 10 and gone down 1 out of 10. With the prospect of supplies and use nearly balanced in the coming feeding year, conditions are favorable for some price increases after harvest. No use for farmers to sell below the support rate. Don't expect run-away prices though. A 15@25¢ increase after harvest season low seems the most likely prospect.

WHEAT—The wheat program for the 1960 crop is settled. Wheat acreage allotments and marketing quotas are in effect. Support rates averaging $1.77 bu. (or higher if parity goes up) were announced July 8. It isn't likely this will be changed.

Prices will be about 20¢ bu. below support rates next harvest based on current indicators. Some price declines may develop after Jan. 1, but if so, they will be minor. Many adjustments in the wheat economy are yet to come.

Watch for more discussion in Congress in early 1960. Ike's public statement on wheat is to touch off still another debate on the question of government supports.

The wheat outlook for 1960 and beyond will be dominated by large supplies.

CORN—Mr. Khrushchev picked the right year to see corn growing in the U.S. Last year's 3.8-billion-bushel crop was thought to be a record that would stand for a number of years. But the 1959 harvest is estimated to total 4.4 billion bushels. Imagine last year's record exceeded by 600 million bushels the very next year!

Mr. Khrushchev saw a corn crop one third larger than the 10-year average of 3.3 billion bushels. Production this year may add another half a billion bushels to the surplus stockpile. When you add this year's crop to old-crop supplies in storage you come up with close to 6 billion bushels. This is a lot of corn anyway you look at it. A third of it may be left over at the end of the feeding season.

Despite the increase in the number of livestock to be fed, there will be an even greater increase in the amount of feed available. As a result, the price of corn is expected to hold at levels close to those of 1959 despite the record feed grain supply which is in prospect.

The government price support program will be a dominating factor in corn prices, at least for the first half of the feeding season. The support rate for the 1959 corn crop compares favorably with the average loaned last year and provides an element of stability to the present situation.

Small seasonal increases in price may be realized by mid-summer, perhaps about 15¢ bu. Prices may come

(Turn to FUTURE, page 83)

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Forage Testing Gains Momentum

"We are convinced that this type of program can do much good for farmers and the feed industry. It appears that forage testing is here to stay."

By Dr. Richard S. Adams
Pennsylvania State University

As many of you know, the Penn State Forage Testing Service was started in January, 1959. The response by Pennsylvania farmers to this new program has fully met our expectations in view of the late start last year. Through Oct. 31, 321 farmers had submitted 818 samples of forage. On the basis of the flow of samples this fall, we expect that approximately 1,200 farmers will be using the service during the coming year.

IDEA SPREADS—Last year organized programs were known to exist only in Vermont, North Carolina, Pennsylvania and the province of Alberta in Canada. Both the Vermont and Alberta programs have been in operation for several years. Similar programs have been available to farmers in several European countries for many years.

Because of the acceptance of this type of service in pioneer states and farmer demands, 16 other states are starting or contemplating similar programs at present. In addition, a number of feed concerns, both large and small, already have initiated or plan to start such a service for their accounts.

OBJECTIVES—We feel that forage testing is a needed service in this age of the cost-price squeeze and a more scientific agriculture. The objectives of our Pennsylvania program are as follows: (1) To more effectively balance rations, (2) to cut feed costs, and (3) to improve forage quality.

The results obtained from pilot farms on which our program has been developed during the past three years and by farmers using the service last year indicate that these objectives can be met on many farms.

AID TO FEEDERS—It is no secret that forages vary greatly in feeding value. A feed tag giving some indications of nutrient content generally is not found on most forages. During the past season, we found that on a dry matter basis, forages contained from 38-76% total digestible nutrients (TDN) and varied in crude protein content from 5-26%.

A tremendous variation in the moisture content of silages also was found. In many cases, it required 4-4½ lb. of silage to provide 1 lb. of hay equivalent, rather than the 3:1 factor often used. The moisture content of grain mixtures containing large amounts of farm grains suggested that some adjustment in feeding rates may be necessary in such cases.

The importance of forage in the ration cannot be over-stressed. For example, an average of 69% of the TDN required by dairy cows in herds on the program last year came from forage. If we are to adequately balance the total ration of the cows with grain which furnishes only 30% of her nutrients, we must know more about the forage fed.

After seeing his forage testing reports, a farmer can many times upgrade his forage by feeding heavier with his better forages. In addition, seeing his reports in black and white may help or encourage him to make the changes necessary to improve his forage in another year.

Owing to the large variations in the nutrient content of forage, forage intake, production levels, etc., a wide range of grain feeding needs resulted. For instance, the minimum crude protein content required in the grain mix for milking cows ranged from 10-20% and the grain:milk ratios needed varied from 1:2-1:19.

Only forage testing and feed programming on some practical basis can help meet the nutritional needs on individual farms. The "eyeball and nostril" test has been shown to be inadequate in evaluating forage in studies at both Penn State and Michigan.

Today, a good ration must be economical as well as nutritionally adequate. The feeding program phase of our service attempts to keep feed costs at a minimum. This is done by pinpointing grain feeding needs and considering the relationship of grain-to-forage prices. Whenever the situation calls for a greater dependency on forage, such is recommended.

Under other conditions a limited-forage, high-grain ration may be suggested. Grain mixtures fed to dairy cattle are formulated to keep costs at a low level while meeting nutrient needs. All suggestions are based on the information provided by the farmer—feed supply, availability and prices.

MECHANICS—Forage testing cartons may be purchased at $5 each from county agricultural extension offices and some feed or fertilizer outlets. Detailed instructions on sampling are given on a sample identification form found in each carton. The sender mails the cartons to the laboratory and the forms to our office at his expense. Samplers used in taking hay samples may be loaned or purchased from the county extension offices and other outlets.

The analytical work is done at a commercial laboratory under contract to the university. A forage testing report is mailed to the farmer for each sample submitted. This includes moisture, crude protein and crude fiber contents, calculated digestible protein and TDN values; a quality grade and identification data. Estimated net energy (ENE) values are provided when desired.

If requested, feeding programs are developed for dairy cattle or other livestock at no extra charge. Dairy programs include grain:milk ratios, minimum crude protein for grain mixtures, formulas for the grain mix, dry and fresh cow feeding schedules and young stock feeding guides. Complete rations, including both forage and grain components, are provided for beef, sheep and swine.

All reports are mailed directly to farmers with a copy going to the county agricultural extension office. A third party such as a feed dealer may be furnished with a copy of all reports, if a coupon signed by the farmer accompanies the forms. These coupons sell for 50¢ each. Numerous feed people have been requesting copies of reports belonging to their accounts. Details on our service may be found in a leaflet entitled, "How to Use the Penn State Forage Testing Service."

AID TO FEED TRADE—This type of program can be as beneficial to the feed industry as farmers themselves. Now, for the first time in many areas, it is possible to routinely evaluate forages to build improved rations. This program allows for personalized service for the individual farmer at a relatively low cost. It is this feature that probably has motivated many of our cross-roads millers to forge to the front in making use of the service in Pennsylvania.

Almost every feed concern has some lines of feed which fit excellently into this picture or easily can make them available. What better method is there of gaining new accounts or holding old ones than by increasing production and/or reducing feed costs?

Based on the experience of some feed concerns, it appears wisest to make use of neutral facilities, such as state-sponsored programs, whenever possible. Some farmers doubt reports showing their forages to be low in quality and grain feeding needs high when they come directly from a feed company.

As more states adopt forage testing programs, feed people should familiarize themselves with those in their territories. Experience has shown also that it is best for companies to charge farmers the full price for forage testing rather than make this a free service and encourage haphazard use by individuals.

RESULTS—Almost unbelievable responses have been noted by Pennsylvania dairymen using this program. Increases in production of 2,000-3,300 lb. of milk per cow have resulted in some herds. Feed costs have been reduced as much as $6.00 per day in 25-30 cow herds. Numerous beef and sheep feeders also have benefited from the service.

We realize that our program, like those in other states, is by no means the ultimate in forage evaluation or feed programming. It is a start, however and improvements can be expected in the future. We are convinced that, even in its infancy, this type of program can do much good for farmers and the feed industry. It appears that forage testing is here to stay.

Dr. R. S. Adams

AUTHOR—Dr. Richard S. Adams was largely responsible for the development of the Penn State forage testing service. This program features forage analysis and feeding programs for dairy cattle and other livestock as well. Dr. Adams now heads the forage testing service program in addition to his other duties in the dairy science extension. He joined the staff at Pennsylvania State University in 1954 as assistant professor of dairy science extension, responsible for dairy cattle nutrition. He went to Larro Research Farm of General Mills, Inc., in 1957 where he was in charge of ruminant research and returned to Penn State in 1958. He is the author or co-author of 17 research and extension publications, dealing largely with various phases of dairy cattle nutrition. Dr. Adams received his B.S. degree in animal husbandry from the University of Maine in 1950. He was awarded his Ph.D. in dairy husbandry from the University of Minnesota in 1955.

FORAGE SAMPLER—Here the Penn State forage sampler is being used in taking a hay sample for testing. These samplers are available for farmers on a loan basis.

Aeration Symposium Meetings Scheduled

DES MOINES, IOWA—Hot Spot Detector, Inc., has announced the following aeration symposium meetings for January, 1960: Jan. 4, Robidoux Hotel, St. Joseph, Mo.; Jan. 5, Muehlebach Hotel, Kansas City; Jan. 6, Tiger Hotel, Columbia, Mo.; Jan. 7, Sheraton-Jefferson Hotel, St. Louis; Jan. 8, Dunn Hotel, Sikeston, Mo.; Jan. 11, Pawnee Hotel, North Platte, Neb.; Jan. 12, Clarke Hotel, Hastings, Neb.; Jan. 13, Equity Union Grain Elevator Meeting Room, Lincoln, Neb., and Jan. 14, Warrior Hotel, Sioux City, Iowa.

Turkey Group Head

YAKIMA, WASH. — Jim Rusk, Mabton, was elected president of the Washington Turkey Federation during the group's annual meeting here.

Walter H. Schwedler, Portland, president of the national federation, told the producers they should grow more turkeys because the production in Washington and Oregon does not meet the demand.

'Feeds for Tomorrow' Will Be Theme of Virginia Conference

ROANOKE, VA.—"Feeds for Tomorrow" will be the theme of the 1960 Virginia Feed Convention and Nutrition Conference here at the Hotel Roanoke Feb. 23-24, according to R. T. Harper, Roanoke, president of the Virginia State Feed Assn.

Oakley Ray

R. L. Barnett, Roanoke, is serving as co-chairman of the convention-conference committee along with Prof. Paul M. Reaves, dairy science department, Virginia Polytechnic Institute.

Keynote speaker on Feb. 23 for the third annual combined business convention and nutrition conference will be Oakley Ray, Chicago, market research director, American Feed Manufacturers Assn.

The convention-conference will be divided into four special interest sections. A swine section will be held the first morning and a poultry section in the afternoon. The second day will be given over to dairy topics in the morning and beef and sheep talks in the afternoon.

Other opening day speakers will include Dr. E. P. Singsen, poultry department head, University of Connecticut, Storrs, Conn., and Dr. John M. Snyder, director of poultry research, Beacon Milling Co., Cayuga, N.Y. Both will appear on the poultry program.

Plans for the conference were completed at a recent meeting of VPI and feed industry representatives at Blacksburg, Va. Participants in the planning session were Mr. Barnett and Prof. Reaves; Mr. Harper; S. E. Aylor, Lynchburg; W. H. Derr and Paul Williams, Richmond; Dr. C. E. Howes, Dr. C. C. Brooks, Dr. G. W. Litton, Dr. E. L. Wisman, Dr. G. C. Graf and Dr. C. E. Holmes, all members of the VPI staff.

Officials of National Alfalfa Hold Meeting

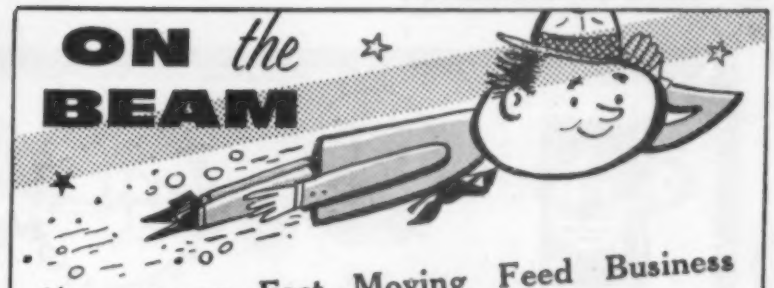
PLAINVIEW, TEXAS — Officials from Kansas City, Lamar, Colo., and the Texas managers and foremen from the plants operating in the Southwest district met at the plant of the National Alfalfa Dehydrating & Milling Co. here.

Attending the meeting were: Dean Bishop, manager, Muleshoe, Texas; R. L. Thornton, foreman; Ray Copeland, southwest divisional manager, sales; J. D. Wood, southwest district manager, production, Plainview; Virgil Ritchie, manager, Hereford, Texas; A. N. Waldroupe, foreman, Lockney, Texas; Bill Vinson, foreman, Muleshoe, Texas; J. A. Bressler, vice president, Lamar, Colo.; Elmo Cowart, accountant-chemist, Plainview, Texas; Bucky McCready, manager, Lockney, Texas; W. A. Donnelly, president, Lawrence, Kansas; Gene Carey, superintendent, Plainview, and Pete Gomes, foreman, Plainview.

S. Brownell to Retire

ITHACA, N.Y.—Prof. Stanley J. Brownell, specialist in animal and dairy husbandry, is retiring from the animal husbandry department in the New York State College of Agriculture at Cornell.

Prof. Brownell, who joined the Cornell staff in 1929, is credited with having brought New York State up from no rank at all in breeding extension work to a position of national and international leadership. Until last year, he was head of the department's extension program, which attracted yearly visits from representatives of countries in Europe, Asia and South America.



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*We certainly won't attempt to explain the alarming growth rate that Topsy seemed to achieve . . . it's enough to say, "She just grew". To feed users, however, it isn't this simple. "Growth" is without question the most important element in livestock feeding. It is a constant source of study by manufacturers, colleges, experimental stations to arrive at the perfect feed balance to assure greater growth at a lower cost per pound.

These studies have revealed stimulating Unidentified Growth Factors that are found only in a meat and bone meal diet. They also show that 50% meat and bone meal provides: 32 times the calcium, 6 times the phosphorous, 2 times the riboflavin and niacin, 10 times the fat, and 1.14 times the protein found in substitute vegetable products.

Because of this greater knowledge, more and more feed manufacturers and millers are turning to meat and bone meal as their choice for protein in the practical balanced diet. It is easy to use, it is economical, it assures the right balance of proteins, and highest productivity. The feeder knows that this adds up to better conversion, lower cost per pound of weight gain and INCREASED GROWTH RATE.

Because the demand for feed with meat and bone meal is ever-increasing the wise feed manufacturer is switching to this source for protein. He gets better prices and more sales because they do more for the feeder . . . giving him greater profits through better results.

Whether you are large or small, you can use meat and bone meal easily. The mixing is simple and economical, since the meat meal is received pre-ground and ready to add, with other ingredients, to the feed.

Write for our free booklets that fully describe the benefits found in meat and bone meal. This valuable information will help you increase your sales and supply you with information to pass along to your customers.

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This trend to Union's I & C Bagger began almost as soon as the unit was introduced. The first completely automatic pre-weighing machine for open mouth bags, Union's I & C Bagger made possible great savings for the farm, food and chemical product industries—savings in increased production and reduced labor, and savings through the use of a lower cost bag. And the I & C was the first machine designed specifically for ease of installation—featuring lower head room and requiring floor space of only 5′ x 5′.

Regardless of the size of their operation, manufacturers and processors immediately found that Union's I & C Bagger was a practical, profitable investment. The trend began . . . and still continues. Though much imitated, Union's I & C Bagger is still specified time after time by leading packers of free-flowing materials.

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JOE BROOKS

BY AL P. NELSON

Ideas Can Be Sold

Myron Kelley came into the warm farm kitchen out of the winter cold. The tall man's glasses steamed, and his nose and cheeks were red. He took off his glasses and began wiping them with a handkerchief. At the same time he smelled the fresh baked foods which his plump, merry faced wife Alice had taken out of the oven.

"Hey, Alice, I think I'll take a cup of coffee and a wee slice of that fresh coffee cake before I go out and milk the cows," he said. "Got kinda cold drivin' out from town. That car heater sure has to put out on a cold day like this."

Obediently his wife put down a steaming cup of coffee and a slice of coffee cake. Myron sipped the coffee. "Alice, what do you think that Joe Brooks is doing now?"

"Haven't the slightest idea, Myron. He's always doing something. I quit trying to keep track of him."

Myron chuckled. "Well, he's had a carpenter there assembling a plywood desk. A desk that farmers can use. Joe's got the specifications, and a farmer can build it himself."

"Does Joe give the farmers free plywood?"

Myron laughed. "Not Joe. He gives away ideas, but not plywood. By golly, Alice, that's a neat desk though. Joe says the plywood costs only $13. You oughta see the farmers that was standin' around watchin' that carpenter work, and talkin' to Joe."

"That's the trouble with you men," grumbled his wife, washing a few baking pans in the sink. "Every time you go to town you stay too long. You just stand around and talk and tell jokes when you oughta be home farmin'."

Myron flushed a little. "Oh, no, Alice. A farmer's got to keep up with things nowadays. He's gotta mix with other farmers and dealers and exchange talk. That's the way you learn."

"You sound just like that Windy Kramer that sells for Joe Brooks," said his wife, wiping a pan. "He's always got some new advice when he comes here."

"Well, it's a competitive world," said Myron. "By golly, that Joe Brooks is on his toes. He's going to set that plywood farm desk up in his window. And he showed us some signs that are goin' in the window, too. One is going to say that farming is big business today and that the wise farmer can make money sitting at his desk makin' out accurate records just as he can make money milkin' cows or caring for hens or hogs. In other words, study your costs."

"We're busy enough now," said his wife. "If you're going to spend nights working at your new desk, I'll have to watch Mother Murphy's Fifth Marriage by myself on television."

"Aw, I watched that for five years," said Myron. "I'm gettin' a little tired of it. And since you speak of it, I think I will build one of those plywood desks. We shouldn't keep our records in those paper cartons. Takes too long to go through them."

His wife looked skeptical. "You build a desk, and first thing you know you'll be buying a filing cabinet, too."

"Mebbe," said her husband. "Joe is going to call a meeting of farmers sometime this month. He's going to have case histories of farmers that got good offices and records. And he's got a connection with some office appliance dealer in the city that's got some used filing cases for sale, too."

"How come you're getting so interested all of a sudden in up to date office stuff?" demanded his wife. "First thing you know, you'll be gettin' high toned and want a red headed stenographer."

Too Old for That

"Naw, I'm too old for that," said Myron.

His wife looked angry. "You mean

again this year . . .

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if you were younger you'd—" she broke off, her lips thin.

"Of course not. Let's get sensible. You know what I mean. Alice, I've got a pipeline milking system and bulk tank. I've got mechanization all over the place. It saves me labor and hired men, and I'm making money easier than I did before. Joe says if a man is modern in his farming, he oughta be modern in his bookkeeping too. And he's right."

"Is he going to try to sell you more feed, is that it?"

Myron sighed. "I'm buying plenty from him the way it is. But Joe is right. I ought to know how much it costs me to feed each cow according to production. I ought to know how to depreciate my machinery. I ought to know how much I can make discount-wise booking chicks, seeds and fertilizer in advance, and lots of other things. And if I have a neat modern office with the right records I can do that. A modern office—and a modern mechanical farm—those things go together."

Alice looked a little more pleasant. "Maybe you're right, Myron. We've been doing okay in spite of low farm prices. That's 'cause we've always been hard workers and savers. Maybe I could help you with that office and set it up neat in the end of our big utility room."

Myron grinned. "Gee, Alice, that's the spot I had picked out. I was hoping you'd let me have it."

"I want a nice desk," Alice said. "I don't want any old rough looking thing. You can build it, but I'll sand it and varnish it. And we don't want any old scratched files. If we're going to have an office, let's have a respectable one. Come to think of it, I have been worrying about our records in those old paper cartons. If we drive around in a Buick and have a new IH farm truck, why can't we have a decent office, especially since it will help us study our farm business and know what our costs are?"

Myron wiped his lips. "That's the way to talk, Alice. I knew I married the right woman. You always come around when you see the facts. You got a good brain on you."

His wife flushed. "Oh, go on now. The cows'll be bellowing to be milked in a minute."

Myron got to his feet. He knew his wife liked his praise. "How about you comin' to town with me in a couple of days. We'll visit Joe Brooks, see that window display of a model farm office, and maybe talk to Joe a little."

His wife nodded. "And maybe I can go to the Leader Store, too. I need some new pretty quilt material. They'll have a sale on one of these days, I think."

G. Eddy Joins Keenco

VINELAND, N.J. — The appointment of Gill Eddy, Schenectady, N.Y., as supervisor of sales and sales promotion for Keenco automatic poultry equipment in New York and the New England states, has been announced by Everett M. Keen, president.

Mr. Eddy has previously served with Dr. Salsbury's Laboratories, Charles City, Iowa; Automatic Poultry Feeder Co., Zeeland, Mich., and Anderson Box Co., Indianapolis, Ind.

Aeroglide Corp. Expands Facilities

RALEIGH, N.C. — Expansion of Aeroglide Corp. office and production facilities has been completed, according to James F. Kelly, president. The new space will permit the manufacture and stocking of "the largest pre-season inventory of grain driers in Aeroglide's history," Mr. Kelly said.

The 2,500 sq. ft. office addition includes a reception area, conference room and office spaces for accounting and purchasing. Included also is a new executive office. Year-round air conditioning and indirect lighting have been installed. All departments are equipped with electronic dictating devices and are interconnected by a private telephone system.

Some 5,000 sq. ft. of production and storage area have been added to plant No. 2 in Raleigh.

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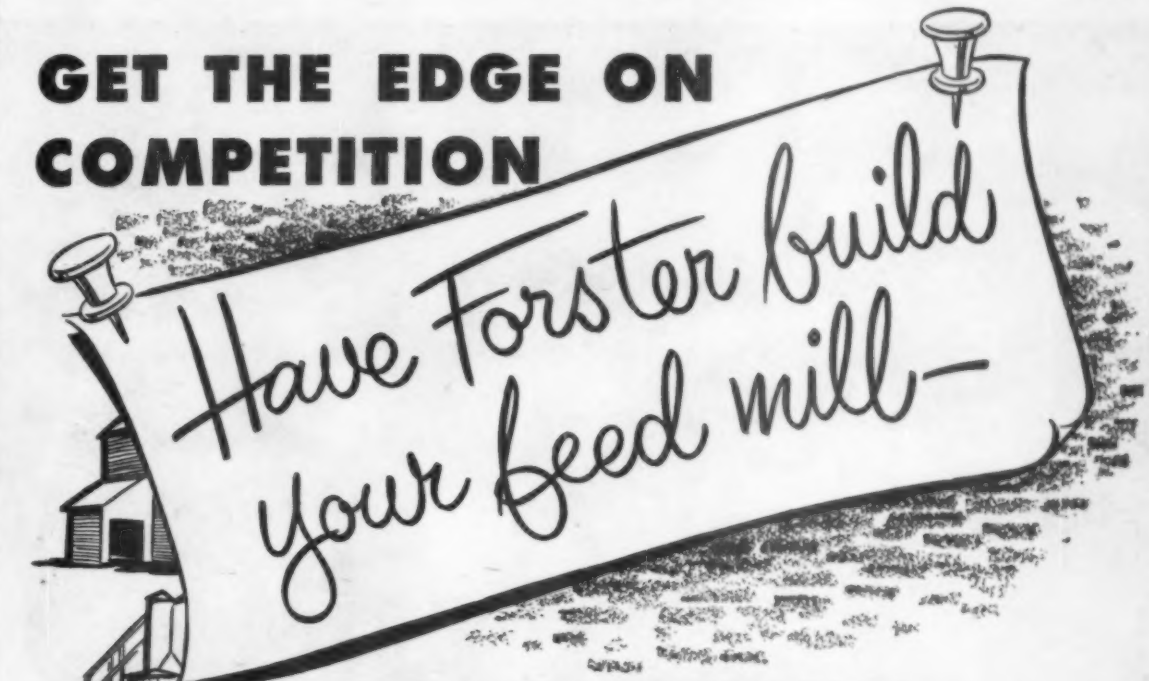

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Zinc Bacitracin Said To Stop Fermentation Spoilage of Silage

BATON ROUGE, LA.—Spoilage in silage produced by fermentation of grasses can be prevented with zinc bacitracin, Dr. L. L. Rusoff told the American Chemical Society's southwest regional meeting here recently.

The Louisiana State university nutritionist and ag biochemist said that the antibiotic checks the growth of undesirable bacteria and increases flavor appeal of cold weather fodder for cattle. He also noted that it "consistently imparts good quality, odor and acidity."

Dr. Rusoff went on to mention such things as safe handling and no special equipment for application.

"Good silage production depends, in part, upon a proper acid environment during fermentation of sugars and starches in feed," he said. "In cases where insufficient carbohydrates are available and fermentation is slow, preservatives such as molasses or sodium bisulfite ward off spoilage by promoting growth of acid-forming bacteria."

Zinc bacitracin, he said, works, apparently, by inhibiting the protein-splitting bacteria and favoring the lactic acid-producing bacteria.

"Palatability studies with steers," he said, "show that bacitracin-preserved clover or oat silage at levels of five grams of antibiotic per ton were preferred over untreated silage or that treated with molasses or bisulfite.

"The antibiotic did not affect the milk flavor or quality of milk when fed to milking cows in a 63-day feeding trial."

Research with antibiotics in preserving clover and oats resulted in silages of good odor, quality and acidity, Dr. Rusoff noted.

"Chemical analyses of the antibiotic-treated silage have shown values for protein, fat, ash, nitrogen-free extract and fiber to be similar to those produced when molasses or sodium metabisulfite were used as preservatives."

He said because antibiotics are involved naturally in bacterial fermentations, this new use for them in silage making "which is a natural fermentation, might be of benefit in producing top quality silage."

Firm Aims for 3½-lb. Chicken in 6 Weeks

EXETER, N.H.—James Coleman, president, Nichols, Inc., poultry establishment here, has reported that the firm's experimental farms are "aiming at a chicken that will grow out in six weeks to a weight of 3½ lb. with a conversion rate of 1½ lb. feed per pound of chicken."

At present, chickens ready for market in 8-9 weeks average 3.88 lb. and put on this weight by the conversion of 2 lb. feed for every pound of meat.

Whitmoyer Expands Canadian Operations

PORT CREDIT, ONT.—Two new moves in an expansion program have been announced by C. W. Whitmoyer, president, Whitmoyer Laboratories, Ltd., Port Credit. Distribution of Whitmoyer products in the western provinces of Canada will now be handled through a new company, Whitmoyer - Cunningham, Ltd., Vancouver, B.C.

K. Cunningham

General manager of the new firm will be Kenneth Cunningham. Mr. Cunningham is an agricultural graduate of Macdonald College of McGill University, and has held positions with feed manufacturers in both eastern and western Canada.

The new firm will handle the entire line of Whitmoyer vitamin oils and concentrates, antibiotics, trace minerals, other feed additives, poultry and livestock pharmaceuticals and sanitation products in Manitoba, Saskatchewan, Alberta and British Columbia.

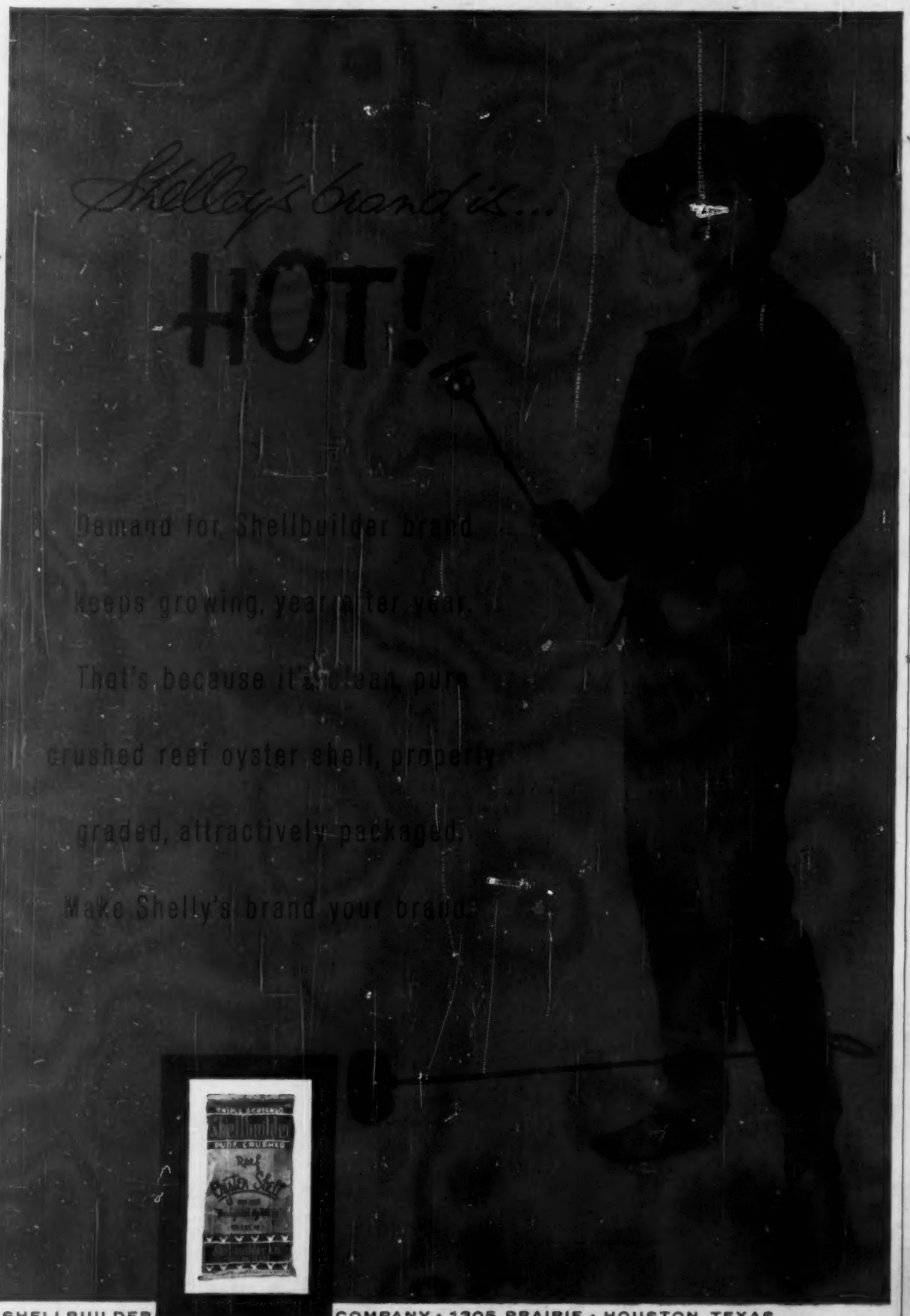
Mr. Whitmoyer also reported establishment of a Canadian feed additives division at the Port Credit operation. This new division will be headed by Stan Dickey who has had experience in the production of feed additive products at various Whitmoyer manufacturing plants.

Mr. Whitmoyer stated that their activity in the feed additive field in Canada is being expanded because Whitmoyer Laboratories, Ltd., and the other associated Whitmoyer companies have become basic in the production of an increasing number of feed additives.

R. Hamachek Elected

VANCOUVER, WASH.—Russell E. Hamachek has been elected president by directors of Great Western Malting Co.

Other officers named include H. E. Sanford, vice president; Orme S. Kellett, vice president of production; Guido R. Rahr, Jr., treasurer; Arthur A. Goldsmith, secretary, and Charles J. Coatney, assistant treasurer.



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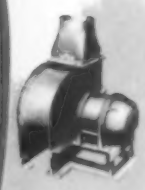


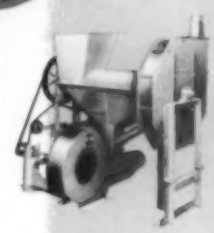
Grain Blower & Exhaust Fan

Vertical Screw Elevator

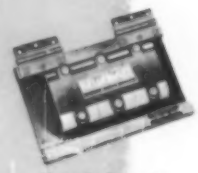
Cob Crusher for making Poultry Litter

Corn Cutter and Grader with Aspirator

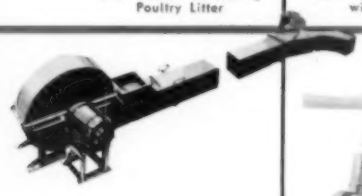
Vertical Feed Mixer ½ to 5 tons



Corn Sheller with blowers for grain and cobs



Magnetic Separator protects mill machinery



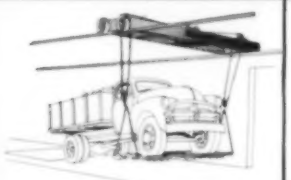
Forced Air Carloader with motor or belt drive

Remote Change Hammermill

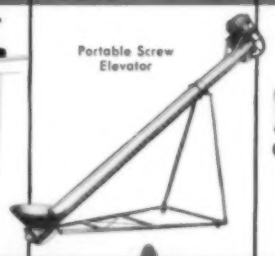
Twin Molasses Mixer

Corn Scalper with or without air cleaner

Chain Drag in double and single geared types

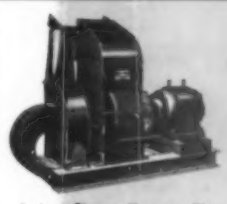


Electric Truck Hoist cuts handling costs



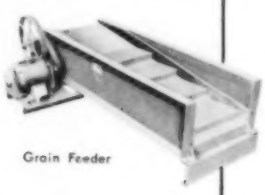
Portable Screw Elevator

Combined Sheller-Cleaner

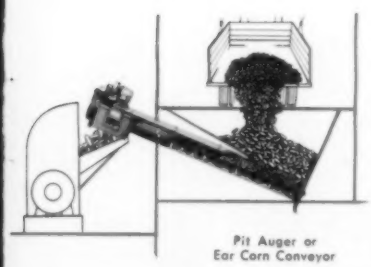


Instant Change Hammermills 12", 16", 20", 24" sizes

Finger Type Corn Crusher and Feed Regulator



Grain Feeder



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- ☐ Portable Screw Elevator
- ☐ Bucket Elevator
- ☐ Electric Truck Hoist
- ☐ Corn Sheller with Blowers
- ☐ Regular Corn Sheller
- ☐ Pitless Corn Sheller
- ☐ Combined Sheller-Cleaner
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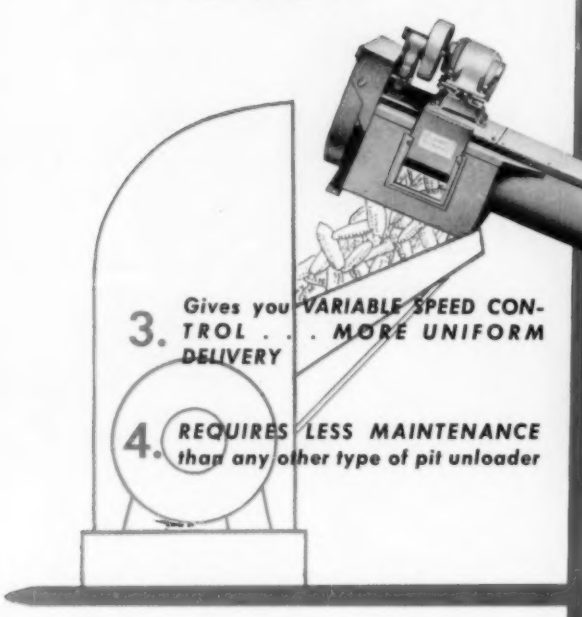

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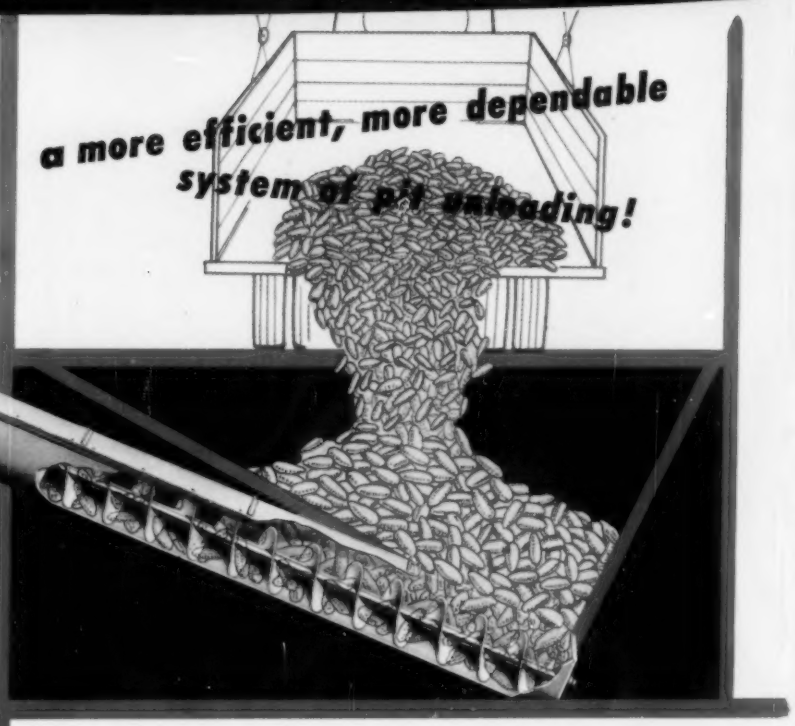

The Kelly Duplex Pit Auger actually offers you an entirely new system of pit unloading . . . a system designed to give you better delivery, more efficient power use, lower maintenance, and BIGGER PROFITS. Constructed entirely of heavy, arc welded steel . . . the Kelly Duplex Pit Auger will handle husked and snapped ear corn—as well as all types of small grain and free-flowing bulk materials. Drive can be at either end of the Pit Auger—making possible an open end discharge if desired. It's absolutely grain-tight . . . is smooth and noiseless in operation . . . and assures an even, uniform flow of material. Maintenance costs are low because there are fewer moving parts—and far less chance of breakdown—than with any other type of pit unloader.

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Chickasha Appoints Turkey Division Chief

FT. WORTH, TEXAS — Paul R. Ray, vice president of Chickasha Cotton Oil Co., has announced the appointment of Maurice H. Meshew as turkey department supervisor.

M. H. Meshew

Mr. Meshew will be in charge of all turkey breeding, growing and marketing operations and will supervise from the Ft. Worth general offices the planning and growing of 600,000-700,000 company-owned turkeys.

Mr. Meshew was turkey production manager for 11 years with Maplecrest Turkey Farms, Inc., in Denver and Hot Springs.

Mr. Meshew was graduated from the University of Kentucky as a poultry major. After graduation, Mr. Meshew was a graduate assistant at the University of Wisconsin. He taught poultry production management, breeding and judging before receiving his M.S. degree in 1940.

He was associated with the University of Wyoming for the next seven years as extension poultryman and as experiment station poultryman.

'Cattle Business Slump Is Not A Price Break'

SALT LAKE CITY, UTAH—The present depressed economic situation in the cattle business is a slump, but definitely not a price break, Dr. Herrell DeGraff, Cornell University, told delegates at the 41st annual convention of the Utah Cattlemens Assn. here.

Dr. DeGraff pointed out that the slump was caused by a combination of circumstances. "Feeders in the Corn Belt held off purchases until later than usual, west coast and southwest feedlots were full and couldn't take as many cattle as usual, and the fall season was very dry in the west where so many cattle are fed out for slaughter," he explained.

Dr. DeGraff, head of a special fact-finding committee for the American National Cattlemens Assn., added, however, that the market prices have improved recently.

Jack Gordon to Head Memphis Grain Unit

MEMPHIS, TENN.—Jack Z. Gordon, resident manager and assistant vice president of the Continental Grain Co., was unanimously elected 1960 president of the Memphis Hay & Grain Assn. in the committee room of the Memphis Board of Trade.

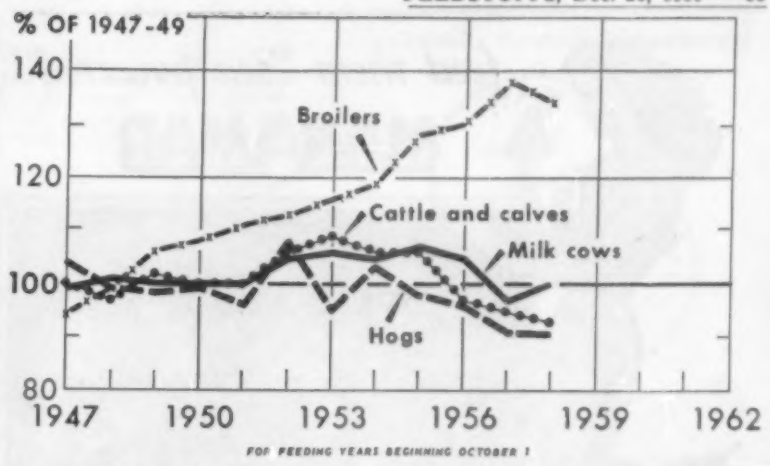
Mr. Gordon succeeds Harold Sullivan of Sullivan Sales Co., who was elected one of five directors.

Named first vice president was S. F. Bigham of Nutrena Mills, Inc.

Directors chosen to serve along with Mr. Sullivan are Bruce Ballew, Farmers Milling & Elevator Co., Colliersville, Tenn.; R. L. Bundy, Allied Mills, Inc.; Charles M. Keith of Mitchell, Hutchins & Co., and S. T. Pease, Jr., S. Tate Pease & Co.

The Memphis Hay & Grain Assn., which operates the grain inspection department of the Memphis Board of Trade, has enjoyed one of its best years in history, Arthur A. Williams, executive vice president of the Board of Trade, said.

"The volume of grain moving into and through the Memphis market," commented Mr. Williams, "is steadily increasing, and the coming year is expected to exceed even the record in 1959."



OUTPUT PER UNIT OF FEED—This U.S. Department of Agriculture chart shows that the output per unit of feed has changed little in the past decade for hogs, cattle and milk cows. Broiler production per unit of feed, however, is now 40% greater than 10 years ago.

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New feeds are calorie-tailored to area, to season—help control summer laying slumps, increase winter production...reduce laying house mortality.

HAVE YOU EVER LOST MONEY during a summer laying slump . . . or seen production drop sharply in cold weather? Then you're the flock-owner we had in mind when we started research on feeds to reduce the effect of bad weather on egg production. They're ready now, proved on farms across America. We call them Pillsbury's BEST Climate-Blended Feeds.

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But Pillsbury's new Climate-Blended Laying Feeds correct this situation. They're blended to fit the seasonal and climatic conditions where you're feeding. *The actual formulation varies from area to area and season to season.* For example, the calorie content in northern states is higher than in southern states . . . is increased in winter . . . is reduced in summer. And naturally, we adjust protein content to conform to the calorie level: more calories, less protein—less calories, more protein. Result: the calorie-protein ratio is always in balance with climate.

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Climate-Blended Feeds have been thoroughly tested and proved. Results are outstanding. Many poultrymen report seasonal production fluctuations have been sharply reduced. Many report significant production increases.

Moreover, by adjusting calorie level to season, birds don't gain unnecessary weight in summer, and this results in reduced laying house mortality.

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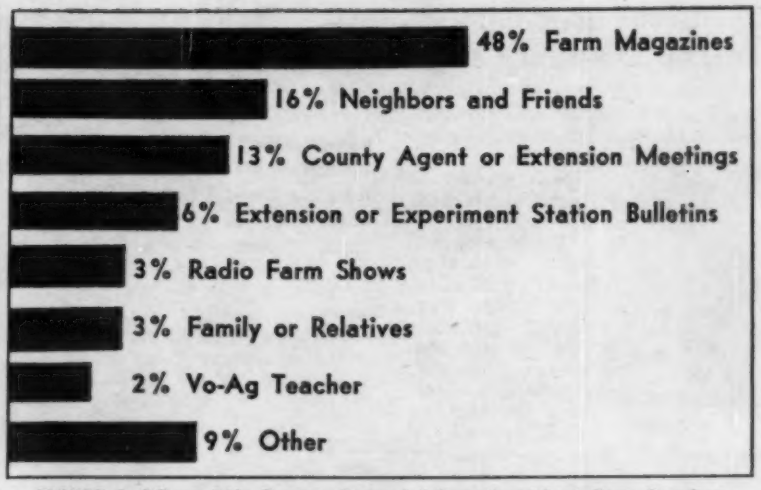

48% Farm Magazines
16% Neighbors and Friends
13% County Agent or Extension Meetings
6% Extension or Experiment Station Bulletins
3% Radio Farm Shows
3% Family or Relatives
2% Vo-Ag Teacher
9% Other

FIGURE 1. Where Ohio Farmers Secured Information About Farm Practices

Farmer-Businessman Communication

"Because of the growing interdependence of farmers and their suppliers, improved communication has become more crucial."

By Dr. Everett M. Rogers
Ohio State University

The very nature of modern farming is dynamic and changing. The stereotype of the independent farmer-pioneer is now obsolete. He has been replaced by a farmer in a business suit whose success is dependent on consumer preferences, government regulations, the costs of farm supplies and the whims of foreign export. American agriculture is moving from a past era of rugged independence into a modern era of agribusiness, where farmers and agricultural industries are interdependent.

In the face of rapidly changing agriculture and because of this growing interdependence, improved farmer-businessman communication becomes more crucial. The purpose of

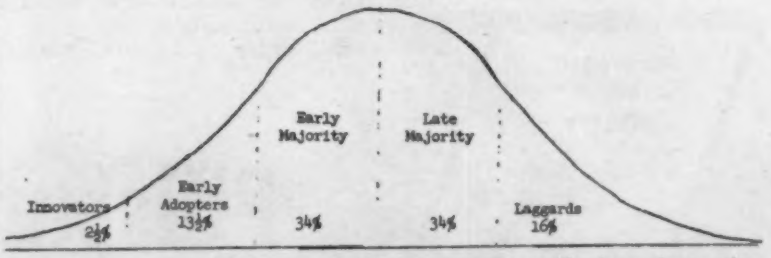
EDITOR'S NOTE: The accompanying article on farmer-businessman communication is from a talk given by Dr. Everett M. Rogers at the Agricultural Marketing Conference at the Ohio State University, Columbus. In it, Dr. Rogers summarizes and comments on research studies on how farmers adopt new products. Dr. Rogers is an assistant professor of rural sociology with the department of economics and rural sociology at Ohio State.

FIGURE 2. Sources of Information (Arranged in Order of Relative Importance) in the Adoption Process

Awareness (Acquaintance with the New Idea)	Information (Gathering of Additional Information and Facts)	Application (Mental Trial and Conviction	Trial (Small Scale Experimental Use)	Adoption (Large-Scale Continued Use and Satisfaction)
1. Mass media (Farm magazines, bulletins, radio and TV farm shows)	1. Mass media	1. Neighbors and friends	1. Neighbors and friends	Almost entirely dependent on satisfaction with trial; there is little outside influence on the adoption decision
2. Salesmen and dealers	2. Government agencies	2. Government agencies	2. Salesmen and dealers	
3. Neighbors and friends	3. Neighbors and friends	3. Mass Media	3. Government agencies	
4. Government agencies (Extension, SCS, and VoAg)	4. Salesmen and dealers	4. Salesmen and dealers	4. Mass Media	

SOURCE: A composite summary of findings from 35 different research studies reported in North Central Rural Sociology Sub-Committee on Diffusion of Farm Practices, "How Farm People Accept New Ideas," Ames, Iowa, Agricultural Extension Service special report 15, 1955; and Dr. Everett M. Rogers, Social Change in Rural Society, N.Y., Appleton-Century-Crofts, 1960.

FIGURE 3. Adopter Categorization on the Basis of Time of Adoption of New Practices



The innovators are the first 2.5% to adopt new practices. The laggards are the last 16%. The exact percentage of farmers included in each category is somewhat arbitrary but has been accepted by many rural sociologists as a means to standardize their research studies.

FIGURE 4. Characteristics of the Five Adopter Categories

Characteristic	Innovators	Early Adopters	Early Majority	Late Majority	Laggards
1. Time of adoption	The first 2.5 per cent to try out new farm ideas	The next 13.5 per cent to adopt new farm ideas	The next 34 per cent to adopt new farm ideas; they adopt just before the average farmer	The next 34 per cent to adopt new ideas; they adopt just after the average farmer	The last 16 per cent to adopt; they resist new farm practices until the whole community has adopted
2. Are their farming methods respected by their neighbors?	No; they influence other innovators and possible the early adopters	More respect than any other adopter category	Less respect than early adopters	Possess little respect	No respect as sources of information
3. Income	Highest; innovators have risk capital	High	Medium	Medium	Lowest
4. Size of farm	Largest	Large	Medium	Medium	Smallest
5. Age	Youngest	Young (not younger than innovators)	Slightly younger than average	Slightly older than average	Oldest
6. Education	Most education; 20% have some college	More education than average	Slightly above	Slightly below	Least education; eighth grade or less
7. Social contacts	Extra-community friendships and travel widely	Leadership in formal organizations within community	Contacts within community limited to neighbors and friends	No contacts outside community; many contacts with neighbors and friends	Very few contacts; semi-isolates
8. Personal sources of information	Agricultural scientists and other innovators	Extension agents, SCS workers, VoAg teachers	Agricultural agents, early adopters	Mainly neighbors and friends	Only neighbors and friends
9. Impersonal sources	Research bulletins and farm magazines	Farm magazines, Extension bulletins	Farm magazines, radio and TV farm shows	Fewer magazines, mostly radio and TV farm shows	Very few magazines or radio farm shows
10. Values and attitudes	Scientific and venturesome	Progressive	Slightly conservative	More conservative and traditional	Folk beliefs and tradition; agricultural magic; suspicious of change agents

this report is to help farm dealers improve their communications with their farm customers.

Why is it important to improve farmer-dealer communications?

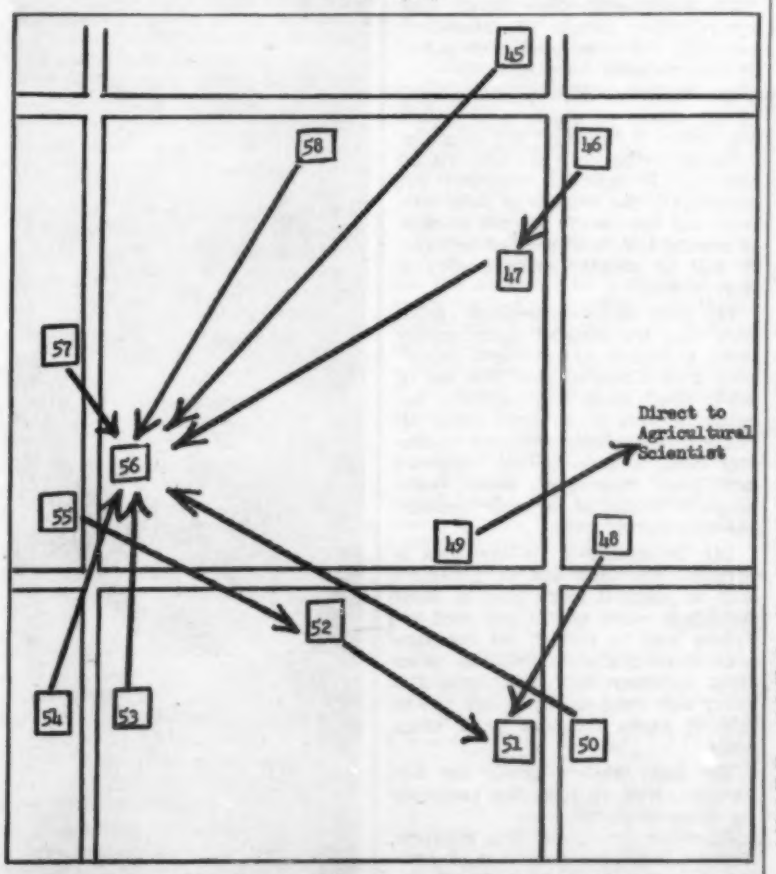
One type of communication concerns new farm practices such as weed sprays, feed additives, fertilizers, livestock medicines and new machinery. One might think these new ideas would be adopted quickly by farmers. On the contrary, a classic study by two Iowa rural sociologists found that hybrid seed corn did not reach complete adoption until 12 years after it was widely available. The average farmer waited about seven years after first hearing about hybrid seed before he planted all of his corn acreage in hybrid.

Another indication of the importance of my topic, I think, is the widespread circulation of a bulletin on this topic, "How Farm People Accept New Ideas."* In the three years that this publication has been available, over 80,000 copies have been sold, making it one of the best read pieces of sociological literature of all time. Many agricultural companies purchased a copy for every one of their employees.

Yet another indication of the importance of my report lies in the tremendous amount of research that has been completed. About 126 different research studies have been published on how farmers adopt new products. And I will attempt to summarize these many thousands of dollars worth of research.

* North Central Regional Committee on Rural Sociology, Subcommittee for the Study of Diffusion of Farm Practices, "How Farm People Accept New Ideas," Ames, Iowa, Extension Service Special Bulletin 15, 1955.

FIGURE 5. Where 14 Ohio Farmers Secured Information About 2,4-D Weed Spray



The arrows show where these 14 farmers in a small Ohio neighborhood secured information about 2,4-D weed spray. Farmer No. 2 is an adoption leader. Eight of his neighbors went to him for information and advice. Farmer No. 1 is an innovator. He was the first farmer to adopt the weed spray in the community. He secured information about the new product directly from an agricultural scientist.

Five Questions

I will attempt to answer five main questions:

(1) Where do farmers secure information about new products?

(2) How do farmers get convinced to adopt new products?

(3) How may the time gap between awareness and adoption be shortened?

(4) Do farm dealers reach the key farmers who, in turn, are respected by other farmers?

(5) Why don't farmers trust information from commercial concerns?

I will attempt to draw some answers to these questions from my recent research here in Ohio (some of which has not been reported prior to now)—plus the studies of other rural sociologists in neighboring states.

Where do farmers secure information about new products?

Farm magazines are the farmers' most important source of information about new products. Dealers, salesmen and company publications are of relatively little importance in making farmers aware of new practices. Findings from a recent study of Ohio farmers as to where they secure new farm information are shown in Figure 1. Generally similar findings also have been reported by studies in other states.

While dealers may not be so important as a source of information about new farm ideas in general, they may be of greater significance in the case of certain products. For example, 53% of the 573 Iowa farmers sampled in 1951 said dealers and salesmen were their chief source of information on the use and care of farm machinery. An additional 16% relied chiefly on dealer bulletins, while only 21% named farm magazines in this study.

How do farmers get convinced to adopt new products?

It already has been pointed out that most farmers are aware of new products for several years before they adopt. What convinces farmers to try out new ideas?

Figure 2 shows that while mass media such as farm magazines are most important in creating awareness of new ideas, it is personal influence from friends and neighbors that convinces farmers to adopt.

As one farmer told me last year in a research interview, "I usually hear about new farm ideas several years before I actually adopt them on my farm.

"I'm convinced that the new prac-

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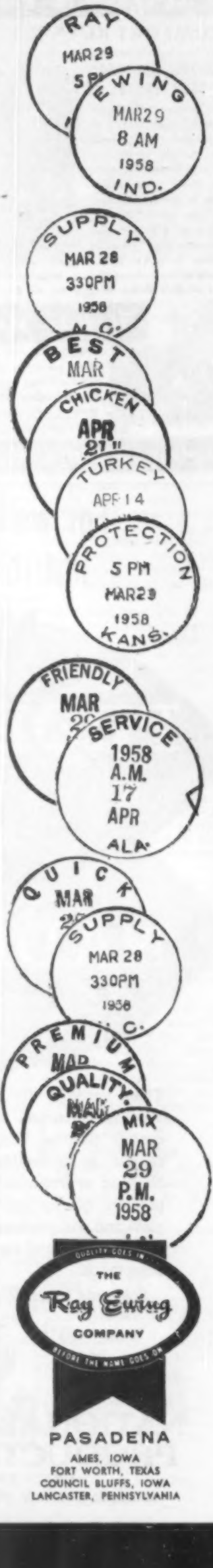

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Approved Non-Siphoning Comply with requirements of Chicago Plumbing Testing Laboratory and U. S. Public Health Service Milk Ordinance and Code. Proof available.

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tices are good, but I guess you'd call me conservative. I like to see the new practice on a neighbor's farm before I adopt it."

I'll tell more about the importance of neighbors in convincing farmers to use new ideas later when we discuss why farmers don't trust commercial sources of information.

How may the time gap between the awareness and adoption be shortened?

In a recent study, we found that some Ohio farmers adopted 2,4-D weed spray in the same year that they first heard of the practice. Other Ohio farmers waited 10 years after hearing about 2,4-D before they adopted. Why do some farmers have a longer adoption period than others?

Lack of information is seldom the reason that new practices are not adopted. In fact, most studies indicate that all farmers know about a new idea before more than a handful have adopted.* This suggests that simply adding "more information" about a new practice seldom will speed up its adoption. Few farmers feel they are actually "rationed" on technical information.

The important factors retarding the rapid adoption of new practices often are farmers' attitudes, values, past experiences and group influences. This is why the topic under consideration is a sociological research problem.

Past research studies generally have indicated that once a farmer tries out a new idea, complete adoption soon will follow. The farm dealer often can play a vital role at this "trial stage" by helping a farmer use a new product on an experimental basis and by assisting him in the interpretation of test results. Adoption of a new practice usually will follow the trial step rather directly.

Not only do farmers vary in the number of years they require to adopt a new product, but the characteristics of the practice itself also affect its rate of adoption.

Following is a list of factors which affect the rate of adoption of a new farm product.

(1) Cost—New practices which are high in cost tend to be adopted more slowly. Corn picker-shellers will be accepted more slowly than new weed sprays costing a few dollars.

(2) Complexity—New ideas that are relatively simple to understand generally will be adopted more quickly than complex farm ideas.

(3) Visibility—New products vary in the extent to which their results are visible or "showy." For example, sprinkler irrigation is a highly visible practice. In contrast, chemical rat poisons kill the rodents in their burrows and the results are not so easily observed. A new product generally will be adopted more quickly if it is visible.

(4) Past experiences—New products also are adopted more readily when a farmer has previous experience with a related idea. The use of 2,4-D weed spray was hastened because farmers in an Iowa study already had purchased sprayers to control corn borers. Hybrid chickens and hogs have been more easily adopted because of farmers' familiarity with hybrid corn.

(5) Divisibility—If a new idea is divisible for trial use, it generally will be adopted more quickly. Most fertilizers, weed sprays and seed varieties may be divided for comparison of results with previous practices. However, bulk milk tanks and many new farm machines can not be divided easily for trial on a small scale.

Do farm dealers reach the key farmers, who, in turn, are respected by other farmers?

In order to answer this question, I must introduce a system of categorizing farmers as to their relative time of adoption of new practices. Five adopter categories are shown in Figure 3.

Innovators are the first farmers to adopt new ideas. Early adopters are next, followed by early majority, late majority and lastly by laggards. The exact percentage of farmers included in each category is somewhat arbitrary.

The characteristics of each category are shown in Figure 4. Innovators have the largest farms, the highest farm incomes, the most education and the most scientific and venturesome attitudes. Innovators often go directly to agricultural scientists for new information.

About 10% of the farmers had some type of direct personal contact with agricultural scientists in the year preceding the study. In contrast, none of the laggards and 42% of the innovators had contact with scientists. In the other categories, 14.3% of the early adopters, 17.1% of the early majority and 5.7% of the late majority had direct contact with agricultural scientists during the past year.

The wide travel of innovators is illustrated by their answers to the question, "Have you traveled outside of your county within the past year to observe some new farm practice?"

My poorly-worded question shows how little I knew about the innovators. About 80% went outside of their county. In fact, almost half had not only traveled outside of their county, but also outside of their state or the U.S. to see some new farm idea. Here are some of the replies:

"I was interested in dairy and beef nutrition in Michigan and potato-growing automation in Pennsylvania."

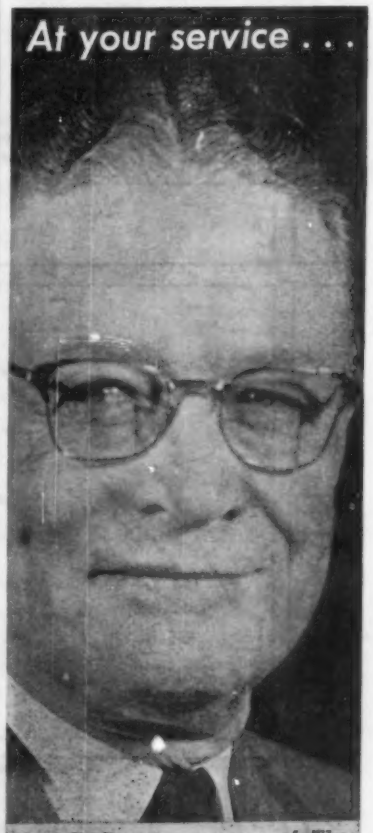
". . . Beef and dairy enterprises in South America, wheat practices in Canada and the new beef ideas in Colorado and Nebraska."

"I visited with swine research men at the Iowa and Minnesota Agricultural Experiment Stations."

Because innovators are relatively

* An example in Bryce Ryan and Neal C. Gross, "The Difference of Hybrid Seed Corn in Two Iowa Communities," Rural Sociology, 8:15-24, 1943.

At your service . . .



Don E. Rogers, manager of The Miller Publishing Company office in Chicago, has more than thirty years of experience in agricultural marketing . . . as a journalist, USDA advisor and representative of The Miller Publishing Company.

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well-educated and travel widely for scientific findings, they may find out about new ideas before their local county agent or farm dealer. Some of the respondents in my state-wide study of 99 innovators even indicated they regarded their county agent as their "technical inferior."

"Commercial companies and farm magazines seem to get here first with new ideas. The county agent isn't too much help to me," said one.

"The county agent is of almost no help to me. I am a graduate of Ohio State University in animal science and I am more aware of current practices than the county agent is," said another innovator.

The innovators were highly specialized farmers. They only kept up-to-date in one special field such as broilers, beef or fruit. But a county agent and a farm dealer are "generalists." They are expected to know "everything about everything."

Other innovators who made a good deal of use of their county agent reported that they viewed him in a different role than did the average farmer. The innovator was more likely to regard the county agent as a technical equal, to call him by his first name and to regard his advice with least respect. I might suggest that the innovator views his farm dealer in a similar light.

Are innovators also looked to by farmers for information and advice about new farm products? In general, the answer is "no." In fact, farmers often regard the innovator's farming methods with disrespect.

Here are some responses from Ohio innovators who were asked what their neighbors thought of the new farm products they used:

"Some think we are a little cracked."

"The way I farm is not the way to win popularity contests among one's neighbors."

"Fifty per cent think I am crazy, the other 50 per cent are sure I am."

I earlier mentioned the importance of friends and neighbors in convincing farmers to adopt new products. Specifically, not all neighbors and friends are important "convincers." Some farmers are particularly influential in their neighbors' adoption decisions. These key farmers often are referred to as adoption leaders because they "lead" in the adoption of new ideas. Adoption leaders are a key target for a farm dealer's promotion efforts. Past research shows the adoption leaders are most often in the early adopter category. They use new products before their neighbors do, but not too far before.

Innovators seldom are adoption leaders. Their neighbors do not look to them for information and advice. This is diagrammed in Figure 5. Farmer No. 1 was located right in the midst of his 13 neighbors and was using 2,4-D weed spray for years before they adopted the same practice. Yet only one farmer went to this innovator for information. It is easy to see that farmer No. 2 is the key farmer for the farm dealer to cultivate.

Dealers may speed up the adoption process in their community by working closely with the adoption leaders. Others then will follow along in a few years after these influential farmers demonstrate the new product. However, past research studies show that while word-of-mouth advertising by adoption leaders will sell their neighbors on adopting a new product, the neighbors seldom are convinced by the leaders as to the specific brand or store. This suggests that dealers may not be fully utilizing adoption leaders as well as is possible.

What should a farm dealer do about innovators? Should he work with them or forget about them? There probably is little a local dealer can do to secure the adoption of his product among innovators. And even if an innovator adopts a new product, he isn't likely to convince his neighbors of its value. The fact that innovators travel widely suggests that perhaps they could be invited to a state-level sales meeting where new products are announced. In any event, innovators are relatively small in numbers. A dealer should concentrate his personal contacts upon the early adopters.

Why don't farmers trust information from commercial concerns?

In order to properly understand the answer to this question, one must be acquainted with the so-called "trickle-down theory."

This trickle-down process begins with agricultural scientists at the state experiment stations, U.S. Department of Agriculture and commercial concerns. Information about new products is communicated directly to change agents of various kinds: county agents, teachers, dealers and other professional agricultural workers. Few farmers have direct contact with scientists (one exception is the innovator). Most farmers depend on the change agent to recommend new products to them. The early adopters accept these new ideas first and then pass them along to other farmers.

Thus the new ideas trickle-down from one farmer to another much as water runs down a hill. The new ideas may become garbled or leached out as they pass from one farmer to another. And the information may encounter "layers of hardpan" as it soaks down through the social structure of a rural community. The laggards are not much interested in new products. They largely ignore the trickle-down process unless they happen to get splashed with a new idea by accident.

Past research studies indicate farm people place a great deal more faith, trust and credibility in the process by which new ideas flow from experiment station scientists to county agents to farmers than in the process from commercial scientist to dealers and salesmen to farmers.

Why is this so?

We asked a state-wide sample of Ohio farmers last spring, "Would you be more likely to be convinced of a new farm practice if you heard about it from a neighbor or from a salesman?" Only about 1% answered in terms of the salesman. Typical reasons for trusting neighbors rather than salesmen were:

"Salesmen would be prejudiced."

"Salesmen, heck, they try to blow everything up."

"I don't believe salesmen."

Farmers seem to place even less credibility in salesmen than they do in dealers.

For example, here is a portion of an interview with an Ohio farmer:

Interviewer: "How does a farmer feel toward salesmen with agricultural products?"

Farmer: "Worthless machines, shrewd schemes, they're all out to get the farmer. The worst ones are those feed and fertilizer salesmen. Sometimes I buy something just to get rid of them."

Interviewer: "How about dealers or salesmen that you know and deal with regularly?"

Farmer: "Well, that would be altogether different. If you know them, it's different. I call my implement dealer 'Jack.' I've known him for 25 years. But it's these door-to-door fellows that you've got to watch."

NEW PRATER REPRESENTATIVE—Three staff members of the Wolverine Elevator Service of Chesaning, Mich. (left to right), Wendell Wilcox, Bill Moline and Bob Hunt, are congratulated by Bill Earl, sales manager of Prater Pulverizer Co., Chicago, on Wolverine's recent appointment as Prater's Michigan sales representative. Wolverine Elevator Service has been in millwright and construction work in the Michigan area for the last 15 years.

In another study, I found evidence that farmers placed much more faith in the research findings of U.S. Department of Agriculture and experiment station scientists than in commercial scientists.

Has some of our advertising and exorbitant product claims taught the farmer not to believe the commercial message? I have no research evidence on this score, but I would suggest an important topic for future research would be the reasons for the lack of farmer faith in credibility in commercial sources of information.

In any event, our studies show that farmers place a tremendous faith or trust in the experiment station-county agent trickle-down process. A research study currently is underway in investigating why farmers purchase a costly new machine that is not recommended by the extension service. We are finding that the county agent may be even more effective at preventing the adoption of a non-recommended product than in promoting the adoption of a recommended practice.

Our findings certainly suggest that the wise farmer dealer is one who works through his local county agent to secure the introduction of new products. He had better "join him if he can't lick him."

Other suggestions that I would make to farm dealers would include:

1. Farm store dealers must keep up to date with new products themselves, for their customers otherwise will not look to them for information and advice.

2. The time required for dealers to select and work with adoption leaders probably is time well spent.

Lastly, I see a need for research on farm dealers by rural sociologists. We have studies of how county agents learn of new farm ideas and influence farmers to adopt them. We know much less about how farm dealers operate in the trickle-down process. The only research study I know of on this topic by Beal and Bohlen at Iowa State University showed that fertilizer dealers knew only a very little more (and in some cases less) than their customers about new fertilizer practices.

K-State Agriculture Curriculums Revised

MANHATTAN, KANSAS — Students entering the school of agriculture at Kansas State University after next September will prepare for professions in applied science.

The curriculums in agriculture have been revised to "upgrade the academic quality of education and to meet the rapid changes taking place in the agricultural industry," C. Peairs Wilson, director of the school, explained.

The new curriculums are to prepare students for service in agriculture in its broad sense, which includes goods and services used in farming and the production, processing, marketing and distribution of farm products to consumers.

Specialized curriculums are provided in feed technology, flour milling, dairy manufacturing, agricultural education and landscape design.

The curriculum in agriculture, which is broad and flexible, provides an understanding of the principles of science for underclassmen, while upperclass courses apply the principles of science to the problems of agriculture in its broadest sense—from farms to consumers.

Required basic science courses include botany, zoology, psychology, political science, economics, bacteriology, genetics, entomology, geology, chemistry and physics. The K-State curriculum in agriculture no longer requires courses in agriculture not based on one or more of those fields of science.

After students finish the basic sciences, they must take at least one course in each of these broad areas of agriculture: soils, plant science, animal science, agricultural engineering and agricultural economics.

Students also must acquire competence in such areas as the humanities, English and mathematics.

MILL OWNER DIES

LAKE ODESSA, MICH.—Roy W. Clark, 62, owner of the Clark Feed Mill, died unexpectedly in the offices of the mill recently.

Latest Rulings in Labor Relations

MUST MANAGEMENT PAY A CHRISTMAS BONUS EVERY YEAR?

WHERE'S OUR BONUS THIS YEAR?
WHAT GIVES?
WE'VE HAD A POOR YEAR!
I'D COUNTED ON IT!
IT'S PART OF OUR PAY!
LET'S APPEAL!
WE'RE PENALIZED FOR JOINING THE UNION
THIS BONUS WAS ALWAYS VOLUNTARY
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NO, UNLESS ESTABLISHED BY CONTRACT, A BONUS IS VOLUNTARY AND MAY BE BASED ON EARNINGS.
Based on a 1959 New York Decision

PLANNING COMMITTEE—Shown (left to right) are members of the Midwest Feed Manufacturers Assn. convention planning committee: Dwight Dannen, chairman, Dannen Mills, Inc.; Lloyd Larson, executive vice president, Midwest Feed Manufacturers Assn.; Jim Woody, Tindle Milling Co.; R. S. Greenlee, Nutrena Mills, Inc.; J. J. O'Connor, Walnut Grove Products Co., Inc., and Pete Rea, Red Comb Pioneer Mills. The convention will be held Feb. 8-9 in Kansas City.

'Meeting Tomorrow's Problems Today' to Be Midwest Theme

KANSAS CITY — "Meeting Tomorrow's Problems Today" will be the theme of the 16th Midwest Feed Manufacturers Assn. convention.

The convention will be held Feb. 8-9 at the Muehlebach Hotel in Kansas City.

In line with the theme of the meeting, nationally known experts will make presentations on these subjects: "Tomorrow's Formulas," "Cost Reduction Through Better Personnel Selection," "Selling in the Twentieth Century," "Labor Relations," "Credit and Finance," "Solving Tomorrow's Problems," "Telling the Modern Feed Story" and "Tomorrow's Opportunities for Youth Today."

The 1960 convention also will have several special features: Half-day program sessions; exhibits in the meeting room; a hot shrimp buffet (instead of the usual banquet); and the president's luncheon closing the convention. Featuring the luncheon will be a drawing for a mink stole.

Bea Johnson, radio-TV star, will climax the convention at the president's luncheon with a discussion of her experiences interviewing leaders in Russia recently.

The program committee includes the following: Dwight Dannen, chairman, Dannen Mills, St. Joseph, Mo.; Joe O'Connor, Walnut Grove Products Co., Atlanta, Iowa; Pete Rea, Red Comb Pioneer Mills, Marshall, Mo.; Ted Hotchkiss, Ralston Purina Co., Kansas City; Jim Woody, Tindle Milling Co., Springfield, Mo.; Harry Dobbyn, Power Feed Mills, Abilene, Texas, and Bob Greenlee, Nutrena Mills, Kansas City.

Exhibitors will be: American Cyanamid Co., New York; Archer-Daniels-Midland Co., alfalfa division, Kansas City; Butler Manufacturing Co., Kansas City; Combs & Co., Kansas City; Crown Iron Works Co., Minneapolis; Dannen Mills, Inc., St. Joseph, Mo.; Bruce Dodson & Co., Kansas City; Douglass Chemical Co., Kansas City; Dave Fischbein Co., Minneapolis; National Alfalfa Dehydrating and Milling Co., Kansas City; Pamco, Oskaloosa, Iowa; Percy Kent Bag Co., Kansas City; Chas. Pfizer & Co., New York; Specifide, Inc., Indianapolis, Ind., and West Virginia Pulp & Paper Co., Kansas City.

6% Less Potential Layers Reported on Farms Dec. 1

WASHINGTON — Potential layers on farms Dec. 1 were estimated at 347,486,000—6% less than a year ago, according to the U.S. Department of Agriculture. This includes hens and pullets of laying age, plus pullets not of laying age.

Decreases were 9% in the east north central states, 8% in the north Atlantic and west north central, 6% in the south central and 2% in the south Atlantic states. Potential layers were 5% above a year earlier in the western region.

Crop Reporting Board estimates show the number of layers Dec. 1 at 313,426,000—4% less than Dec. 1, 1958. This was the lowest number for that date since 1938. Decreases of 8% estimated in the east north central states, 7% in the north Atlantic, 6% in west north central and 2% in the south central states more than offset increases of 6% in the west and 3% in the south Atlantic states.

Pullets not of laying age on Dec. 1 totaled 34,060,000—21% less than a year ago. Holdings showed a decrease in all regions except the West, which was 2% above last year. Decreases were 29% in the south central, 27% in the south Atlantic, 25% in the west north central, 24% in the east north central and 21% in the north Atlantic states.

Farm flocks laid 4,745 million eggs during November—4% less than in November, 1958. Decreases were 9% in the east north central, 7% in the north Atlantic and west north central and 1% in the south central states. These decreases were partially offset by increases of 8% in the west and 4% in the south Atlantic states. Egg production from January through November was about 3% above the same period last year.

The rate of egg production per layer during November was 15.2 eggs, compared with 15.3 eggs in November last year. The Crop Reporting Board says rate of lay did not follow the usual upward trend because of extreme cold weather in the north central and south central states and because of the larger than usual proportion of hens in the laying flocks.

Producers received an average of 31.3¢ doz. for eggs in mid-November, compared with 31.6¢ a month earlier and 38.9¢ a year earlier. Mid-November prices received by producers were the lowest for the date since November, 1940. The price trends at terminal egg markets were downward during the first three weeks of November. However, egg prices during the weekly period Nov. 25 through Dec. 2 were unchanged to 1½¢ higher on large and mediums and unchanged to 2¢ higher on smalls.

Hens and Pullets of Laying Age, Pullets Not of Laying Age and Potential Layers on Farms, Dec. 1

Year—	North Atlantic	E. North Central	W. North Central	South Atlantic	South Central	Western	United States
Hens and Pullets of Laying Age on Farms (thousands)							
1948-57 (average)	59,451	69,030	96,889	33,401	54,526	37,133	350,430
1958	54,482	63,848	89,213	34,540	45,991	37,719	325,793
1959	50,727	58,691	83,507	35,599	44,934	39,968	313,426
Pullets Not of Laying Age on Farms (thousands)							
1948-57 (average)	5,520	5,850	10,091	6,073	9,538	5,152	42,223
1958	6,702	5,272	9,569	6,959	8,116	6,618	43,236
1959	5,310	3,987	7,150	5,102	5,740	6,771	34,060
Potential Layers on Farms* (thousands)							
1948-57 (average)	64,971	74,879	106,980	39,474	64,065	42,284	392,653
1958	61,184	69,120	98,782	41,499	54,107	44,337	369,029
1959	56,037	62,678	90,657	40,701	50,674	46,739	347,486

*Hens and pullets of laying age plus pullets not of laying age.

Europe Expected To Up Imports 18%

WASHINGTON—Seven drouth-affected countries of western Europe are expected to import nearly 15 million metric tons of feed grains during 1959-60, compared with 12.7 million in 1958-59, according to a preliminary estimate of the U.S. Department of Agriculture. This would be an increase of about 18%.

The countries are the United Kingdom, the Netherlands, Belgium, France, West Germany, Denmark and Sweden. During 1958-59 they bought 7 million tons, or about 55% of their total feed grain imports, from the U.S. However, a larger percentage of their 1959-60 feed grain imports is expected to come from this country.

U.S. feed grain exports to the area since July 1 are already more than 1 million tons above the comparable period a year earlier. The July-November, 1959, total (partially estimated) of U.S. feed grain exports to the seven countries was 3.64 million metric tons, compared with 2.47 million a year earlier, a rise of 47%.

During July-November this year, total U.S. exports of feed grains were 5.1 million metric tons, compared with 4.3 million a year earlier, a rise of about 800,000 tons, indicating that increased shipments to the drouth area were partly offset by smaller shipments to other destinations. Total U.S. feed grain exports in 1958-59 were 10.9 million metric tons.

The seven-country area is expected to need 770,000 metric tons more oilcake than last year, an increase of about 14%. This could be provided by greater imports of oilcake and oilseeds, particularly soybeans. The seeds and cake combined may amount to as much as 1.3 million tons in feed grain equivalent.

The additional feed grains and meal are needed in the seven-country area to make up for drouth losses of hay, pasture, fodder and other roughage.

It is estimated that the total loss in feed production due to drouth in the area was 10-12 million tons, feed grain equivalent. In addition to the feed grains and oil cake, some of the shortage is being made up by imports of hay, alfalfa pellets, bran and miscellaneous feedstuffs from southern Europe.

"That isn't what other farmers say about bulk delivery."

Heavy Breed Poult Production Rises, Light Breeds Fall

WASHINGTON — Heavy breed poult production by commercial hatcheries during November was up 36% from November, 1958, according to a U.S. Department of Agriculture hatchery production report.

Heavy white breed poult production during November of 1,164,000 was 37% larger than the same month last year. The hatch of other heavy breed poults (mostly bronze) of 364,000 was 34% more than in November last year. For the year, January through November, the hatch of all heavy breed poults totaled 71,681,000—1% more than a year earlier.

Turkey eggs in incubators on Dec. 1 indicate that the number of heavy breed poults hatched in December will be larger than in December, 1958. The hatch of light breed poults will be smaller.

For November, the number of light breed poults hatched totaled 351,000—down 47% from November, 1958. The January through November hatch of light breeds totaled 15,357,000, compared with 13,565,000 during the same period last year.

The cumulative hatch of all turkey poults, January through November, totaled 87,038,000—3% more than were hatched during these months in 1958.

Pelleted Pig Ration Gains 'Fast But Costly'

BROOKINGS, S.D.—Pelleting pig rations gave faster, but more costly gains in tests at the agricultural experiment station at South Dakota State College.

The pigs fed pelleted rations gained faster on less feed than those fed rations in meal form, but pelleting expenses resulted in higher feed costs for pigs fed those rations.

Pigs on pellets gained 3.4% faster on 2.9% less feed than those fed rations in meal form. But a cost of $6.50 a ton for pelleting made the gains from this feed more costly, according to Dr. R. C. Wahlstrom of the animal husbandry department.

IMC Vice President

CHICAGO—International Minerals & Chemical Corp. has announced the appointment of R. J. DeLargey to the new position of vice president, administration.

Mr. DeLargey comes to IMC from Food Machinery & Chemical Corp., where he was general manager of the Westvaco Chlor-Alkali division, with headquarters in New York.

T. M. Ware, IMC president, said Mr. DeLargey will be responsible for the company's industrial relations, purchasing, legal and industrial engineering departments.

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OUTLOOK

Some Nutritional Applications for 1960

"The nutritional applications in the year ahead should be centered around re-emphasis, re-evaluation, and refinement."

By Dr. Charles J. Lewis
Kent Feeds, Inc.

The present policy expressed by one of our federal agencies, along with the uncertainty of any changes in these policies, certainly imposes many restrictions upon any predictions about the probability of application of some of the recent nutritional discoveries. Further, in light of the projected livestock prices for the coming year, history would indicate that the application of new nutritional discoveries would be slow. Thus, if one is limited to 1960 to make predictions, there are only two that can be made with any degree of certainty:

1. Few, if any, new drugs or feed additives will be offered by the feed industry.

2. The purse strings of our livestock and poultry producers will be drawn tightly (although in too many cases unjustly so).

To be certain, this is not a time for a gloomy, pessimistic attitude. On the contrary, it is a year for optimism. It is certainly a year for re-emphasis, re-evaluation and refinement of the old, although less dramatic, data. Certainly, once the feed nutritionist does this, he can have an optimistic look at the new year. The **challenge** to produce meat, milk, eggs and poultry most efficiently **is always the greatest during an era of low livestock and poultry prices.** Thus, the nutritional applications of 1960 should be centered around re-emphasis, re-evaluation and refinement.

RE-EMPHASIS OF THE OLD— During the past 10 years, we have been so engrossed in the so-called "dramatic research" involving drugs and additives that many of the industrial extension men (the feed service men) and college extension men, have taken little time to understand and disseminate information regarding the value of balancing rations for livestock and poultry. Is not the "old" data presented in Tables 1 and 2 dramatic? Is there a "feed drug" that will give these types of reponses? Is this not the type of data that should be in the hands of feedmen, extension men and swine producers in 1960? The answer is obvious. One would be amazed at the number of swine producers who are not aware of such data.

In addition to being faced with low prices for his pork, it would appear that the swine producer will have an abundant supply of corn. The temptation to attempt to produce pork on "corn, air and water" is stronger than ever. It must be re-emphasized to the hog producer that not only will "corn, air and water" decrease his rate of gain and increase his cost to produce a pound of pork, but it will also affect the quality of his finished product. This has been known for years but we have failed to emphasize it. The Danish work of Dr. H. Clausen (Table 3) not only confirms, but re-emphasizes the need to maintain an adequate protein level in the diet if quality pork is to be produced. We Americans, in our highspeed "be there first" research programs, with our emphasis on rate of gain and feed conversion, have too often overlooked the end product, the carcass.

Basic concepts in the formulation of rations and concentrates for ruminant animals have also tended to be overshadowed by an era of hormones, tranquilizers, antibiotics, chemobiotics, etc. Recently an animal nutritionist was heard to remark "that ration formulation for ruminants was rather simple. It was only complicated in the non-ruminant field." The truth is quite the contrary. Indeed, it is very complicated. The individual who advises the cattle feeder on his feeding program must take into account numerous factors before a sound feeding program can be recommended. Some of these factors are indicated in Figure 1. **It should be obvious that no one supplement—or no one given amount of supplement—or no one general feeding program—can be applicable to all these possible combinations of feeding situations.**

The Purdue report presented in

Dr. Charles J. Lewis

AUTHOR—Dr. Lewis, a native of North Dakota, received his B.S. degree for Utah State Agricultural College and his M.S. and Ph.D. degrees from Iowa State University. He joined Kent Feeds, Inc., Muscatine, Iowa, as nutritionist in 1956. Dr. Lewis is now vice president and director of nutrition and research.

FIGURE 1. Factors to consider in formulating a specific feeding program for a specific feedlot operation.

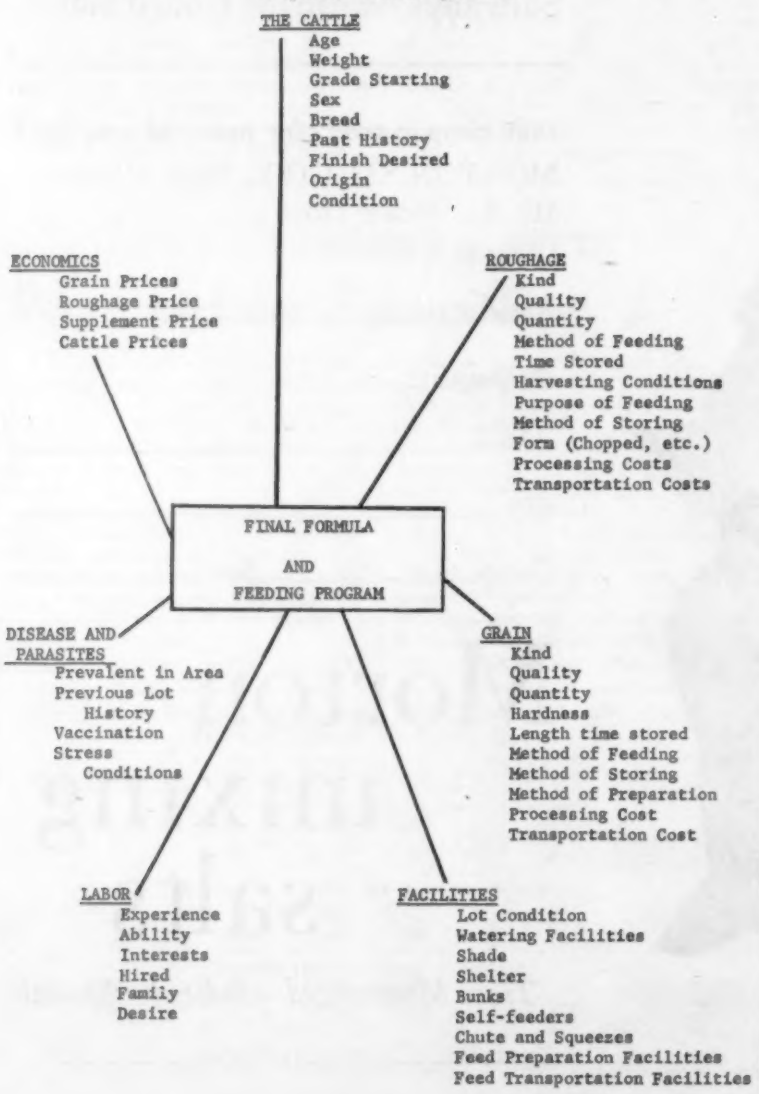

TABLE 1*. It Pays to Feed Balanced Supplements

Type of ration	Feed for 100 lb. of gain
Corn alone	12 bu.
Corn and tankage	7 bu. corn 40 lb. tankage
Corn and balanced supplement	5½ bu. corn 50 lb. balanced supplement

*From an address to the Annual Convention of the American Feed Manufacturers Assn., 1947, by D. Catron. Reprinted by Feedstuffs.

TABLE 2*. Corn Alone vs. Corn and Supplement

Stage	Corn alone	Corn and supplement
SOWS DURING GESTATION		
Number pigs farrowed per sow	9.2	10.1
Average birth weight (lb.)	1.85	2.42
Per cent strong pigs at birth (%)	41	85
SOWS AND LITTERS (Pasture)		
Average pig gain after starting trial (lb.)	18	21
Total gain on sow and litter (lb.)	82	167
Feed per 100 lb. gain (lb.)	754	359
G-F PIGS IN DRYLOT		
Average daily gain (lb.)	.95	1.77
Number days to reach market weight (days)	127	69
Feed per 100 lb. gain (lb.)	583	400
G-F PIGS ON PASTURE		
Average daily gain (lb.)	1.38	1.72
Number days to reach market weight (days)	106	85
Feed per 100 lb. gain (lb.)	376	351

*From an address to the Annual Convention of the American Feed Manufacturers Assn., 1947, by D. Catron. Reprinted by Feedstuffs.

TABLE 3. The Influence of Feeding Increasing Quantities of Protein on the Meatiness of Pigs*

Growing Period 20-90 Kilos; Limited Feeding; Basic Feed: Barley Plus Fodder Sugar Beets
Adapted from Clausen, H.; Proc. 1959, Cornell Nutr. Conf. p. 117, Table 3, 1959

Skim milk per pig daily in kilos	0.5	1.0	1.5
Protein concentrate per pig daily in grams	40	75	110
Basic feed: barley and fodder sugar beets.....	Both increased simultaneously according to level for limited feeding		
Daily weight gain in grams	470	512	576
S.F.U. per kilo live weight gain (feed efficiency)	3.97	3.73	3.38
Average thickness of back fat in cms.	3.63	3.50	3.35
Area of meat in cross section in cms.	30.0	34.0	35.5
Area of fat in cross section in cms.	44.0	43.7	39.4
Fat in per cent of meat in cross section	146	128	111

*Average of four experiments with a total number of 20 pigs in each treatment group.

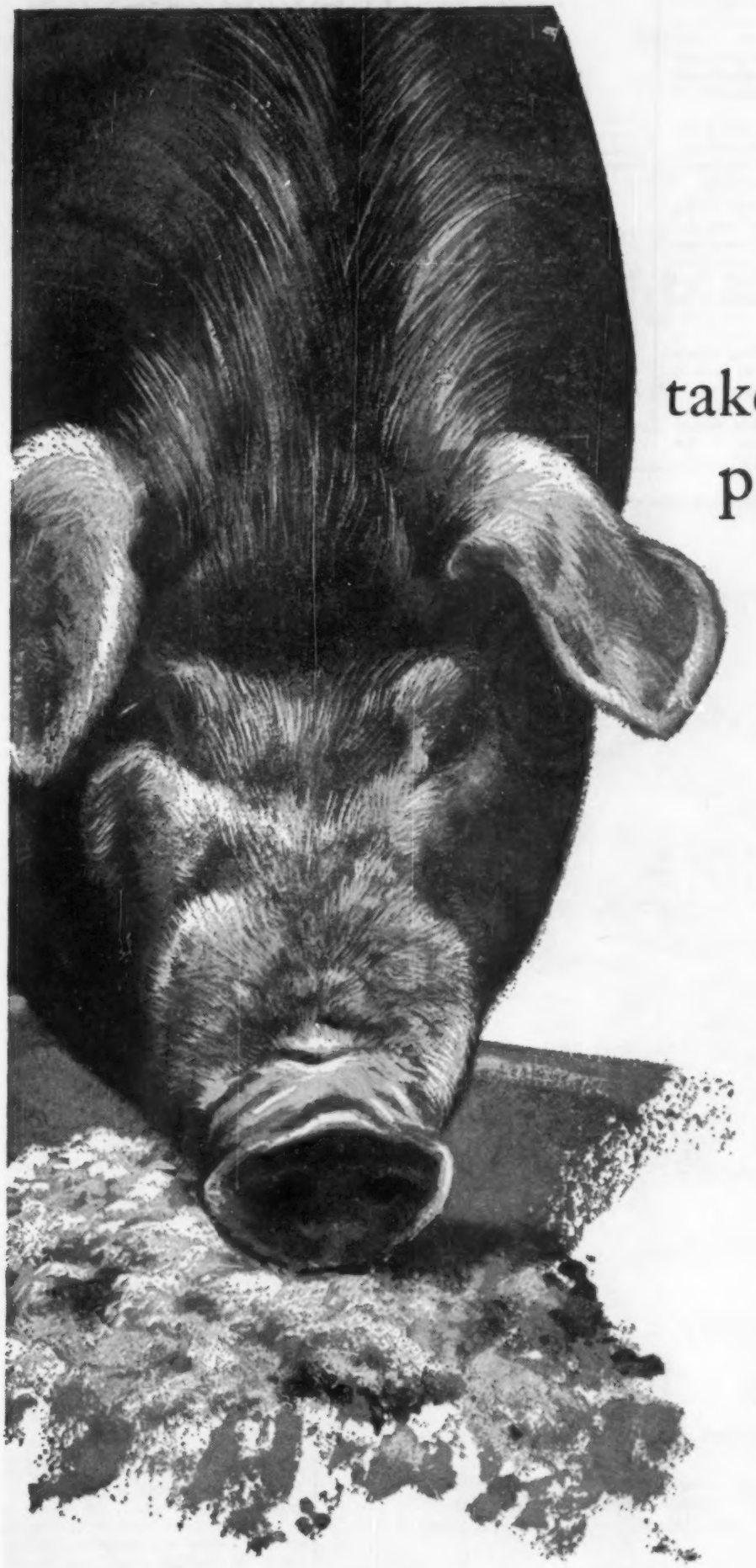

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TABLE 4. Comparison of Self-Feeding a Mixture of Ground Ear Corn and Soybean Meal to a Mixture of Ground Ear Corn and Purdue Supplement A to Fattening Cattle

Adapted from Purdue Memo A. H. 201, April 26, 1957

Item	Eight parts ground ear corn to one part protein supplement: Soybean meal (44% Crude protein)	Supp. A (32% Crude protein)
No. of steers	12	11
Days on test (in program)	158	158
Initial weight (lb.)	524	520
Final weight (lb.)	812	904
Total gain	288	384
Daily gain	1.83	2.43
Feed/100 lb. gain (lb.)	824	832

Table 4 certainly demonstrates this point. To be sure, there are conditions under which straight soybean oil meal need be the only supplementation to beef cattle rations. However, under the conditions which the experiment was conducted, straight soybean oil meal was **not** the supplement of choice.

These are just a few of many old facts that the feed industry and college extension men should emphasize to the livestock producer in 1960.

RE-EVALUATION — Although feeds, feeding programs and feed additives should be continually reviewed and re-evaluated, greater emphasis will be seen in this area in 1960. Feed additives will probably be most keenly evaluated.

Because of the numerous reports in the literature (exemplified in Table 5) which indicated a general lack of response (or reduced response) to antibiotic supplementation of the diets of non-ruminant animals, an improved response with some of the newer antibiotics, an increased response to some of the "narrow spectrum" antibiotics and an increased response to combinations of antibiotics, antibiotics will certainly be re-evaluated.

TABLE 5. Results of Antibiotics in Growing-Finishing Swine Rations

Adapted from Wahlstrom, R. C.; South Dakota State College Swine Field Day Report, Aug. 28, 1959

Lot No.	1	2	3	4*	5†	6‡
Antibiotic	None	Aureomycin	Erythromycin	SPS	PRO-STREP	Combination
Grams per ton	0	20	10	50	25	26.25
Number of pigs	12	11	12	12	12	12
Average initial weight, lb.	31.8	32.0	31.8	31.8	31.7	31.8
Average final weight, lb.	177.8	177.5	180.2	192.9	183.3	188.9
Feed/lb. of gain (lb.) (to 110 lb.)	276	264	257	271	250	256

*Basal plus 50 grams SPS per ton (41.8% Streptomycin, 16.4% penicillin, 41.8% sulfaquinoxaline).

†Basal plus 25 grams PRO-STREP per ton (25% penicillin, 75% Streptomycin).

‡Basal plus 26.25 grams antibiotic combination per ton (5 grams Aureomycin, 2.5 grams Erythromycin, 12.5 grams SPS, 6.25 grams PRO-STREP).

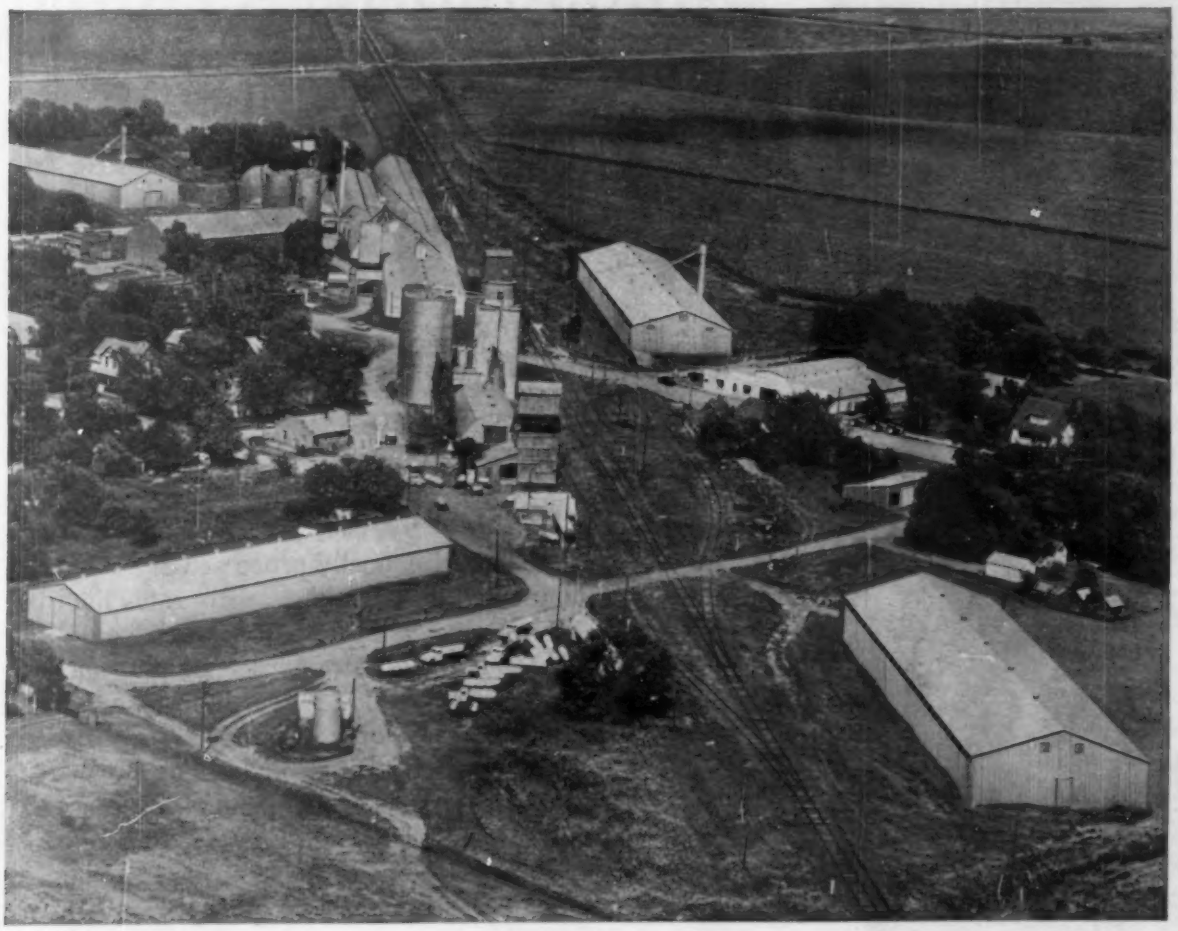
It is beyond the scope, and not the intent, of this discussion to enter into the current controversy of whether or not the response to antibiotics has actually been lost. The nutritionist who is entertaining the opinion that the response to antibiotics has been lost, might well ask the following questions before coming to a conclusion.

1. Has the magnitude of response to antibiotics, on the average, reduced, increased or remained constant with time?
2. Have the diets of the control animals been improving with time?
3. Have the conditions under which the antibiotics are tested been improved with time?
4. Is it possible that because only one or two lots serve as a control in a given experiment that the feeding of antibiotics to other lots may have improved the environmental conditions for all?
5. Is it possible that the continuous use of one antibiotic or one combination of antibiotics has created a condition favorable to the development of an organism(s) that is not inhibited by the antibiotic employed?
6. Is there scientific data which indicates that antibiotic resistance may develop?
7. Are the conditions under which your feeds and feeding programs are employed similar to the conditions under which the antibiotics are tested?

Because of the reports indicated above, certain trends in the application of antibiotics to feeds will be seen in the coming year. Some of these will be: A re-selection of the antibiotic(s) employed; a greater trend toward the use of "narrow spectrum" antibiotics and a combination of antibiotics; the rotation of antibiotics at various times within the year, or from year to year, or at various stages during a feeding program; a trend away from the continuous use of high level antibiotics; an increased trend toward the use of high level antibiotics at a specific period, and the use of new antibiotics.

New and old feed drugs or additives offered to the feed industry will be more closely scrutinized. The day that a new drug can be "promoted" into the feed bag, either by industry or colleges, is nearly at an end. Not only will the drugs be tested for their intended efficacy, but they will also be tested for other economic aspects. For example, a drug presently on the market, which has proven to be an excellent preventive for a specific disease in poultry has consistently (under the conditions at the Kent research farm) resulted in about a 10% growth depression and a 15% increase in feed required per pound of gain. In addition, other adverse side effects have been noted. There is a real need for re-evaluation so that all economic aspects of a drug can be determined.

REFINEMENT OF FEEDS AND FEEDING PROGRAMS—Refinement of feeds and feeding programs will be extended into the coming year. Although the need for refinement has long been needed, production and warehousing problems on the part of the feed industry, and lack of recognition of the need (customer demand) have tended to block advances. However, the "cost-price squeeze," along



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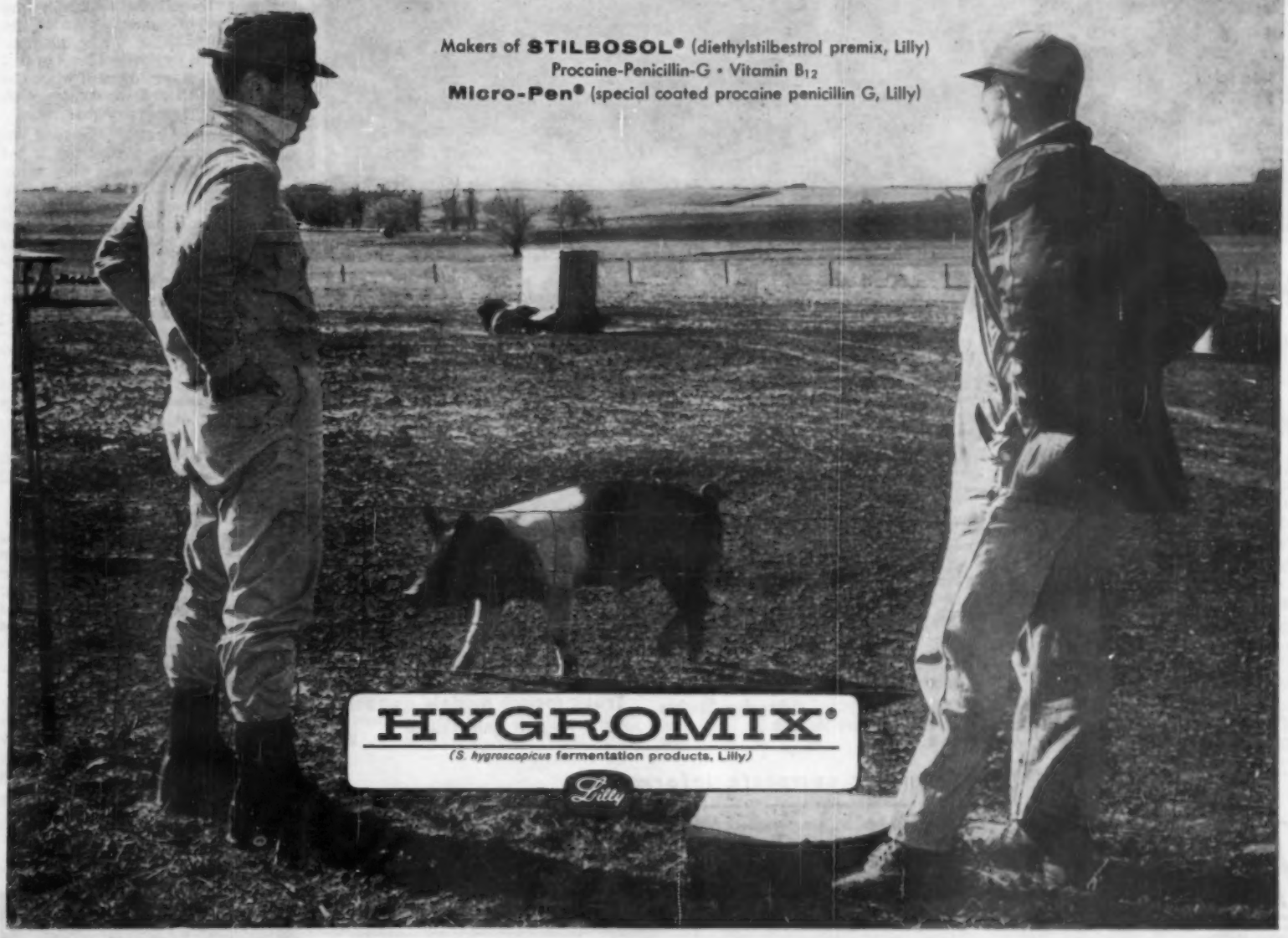

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TABLE 6. Moisture Content and Chemical Composition of Smooth Bromegrass Clippings as Related to Stage of Maturity*

Stage of maturity	Moisture content	Chemical composition on dry-weight basis, % Protein	Crude fiber	N-free extract	Ether extract	Ash
4.5 in.	72.4	13.6	19.8	53.4	3.7	9.5
Vegetative	73.5	13.8	21.8	52.4	3.4	9.1
Heads well formed	71.7	8.2	30.2	51.1	2.4	8.1
10% anthers	61.9	7.2	29.7	53.0	1.9	8.3
Water stage of seed	52.8	6.9	28.9	55.3	1.4	7.6
Seeds hard	43.9	5.1	29.8	54.4	1.8	8.9
Seeds fully mature	41.0	4.0	35.9	52.0	1.6	6.5

*Adapted from Sotola, J.; Jour. Agr. Res., 63 (1941).

with progressively better informed livestock and poultry producers, will necessitate the need for refinement in feeds and feeding programs. Everyone acquainted with livestock and poultry nutrition is aware of the fact that one feed or one feeding program will not satisfy all livestock or poultry production conditions. Because of the management, feed preparation facilities, feeding facilities, housing facilities, labor situation, type of grain grown and locality, it is obvious that a wide variety of feeds and feeding programs are required. **Thus, there will be a greater trend toward formulation of more feeds and feeding programs to meet the specific needs of a specific class of livestock under specific conditions at a specific time.**

Feeds specifically designed to meet the needs of livestock and poultry under different climatic or environmental conditions will be a further refinement.

Chemical analysis of roughages at various stages of maturity would supply factual evidence that the supplementation (see Table 6) of a ration basic in roughages will vary from season to season of the year. The amount and constituents of a supplement to lush legume pasture are far different from a supplement to hays that have been stored for months. It is obvious that a supplement designed to meet both situations could not be made without resulting in an over or under supplying of nutrients at one or the other season of the year. Further refinement in feeds and feeding programs to take into account the variation in nutrient composition of roughages at various seasons of the year will be made. Progress will be most rapid in dairy feeds where roughages are most basic.

Likewise, depending upon geographical location and housing conditions, the nutrient requirements for the non-ruminant can vary from season to season, or more specifically with environmental temperature. Data of F. W. Hill presented in Table 7 shows that the relative efficiency of laying hens is correlated with the season of the year.

TABLE 7. Effect of Season on Relative Efficiency

Month	Monthly relative efficiency as percentage of annual mean %
October	101.7
November	105.7
December	98.6
January	97.4
February	93.9
March	93.6
April	93.1
May	100.6
June	106.2
July	106.9
August	105.5

Hill, F. W.; Poultry Science, 35:59, 1956.

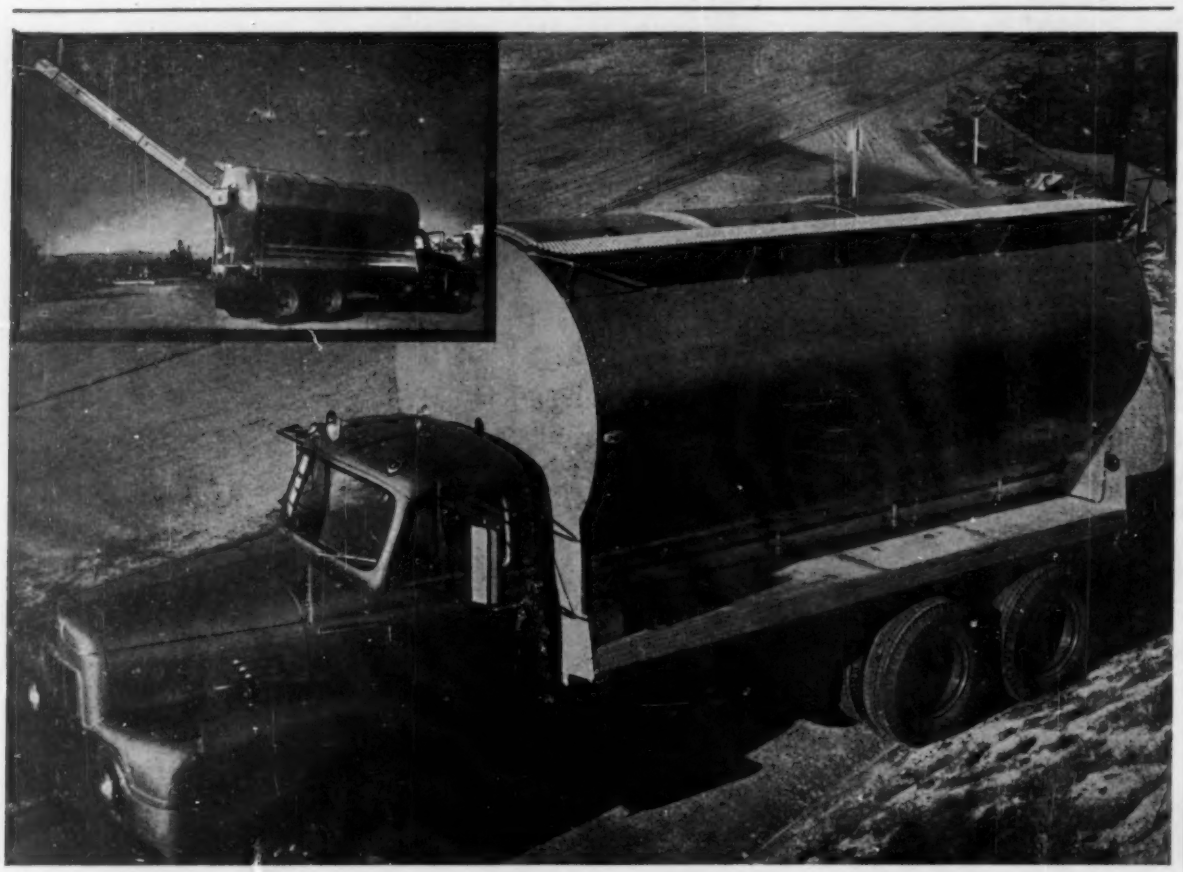
Relative efficiency is obtained by multiplying the **predicted** feed consumption by 100 and dividing the product by the **observed** feed consumption. The predicted feed consumption takes into account the weight of the bird, the change in weight of the bird and the weight of the eggs produced. Mr. Hill's data demonstrates that efficiency is lower than what would be predicted in winter and higher than predicted during summer. He also points out that this would be expected from the fact that maintenance requirement is a relatively higher proportion of feed requirement at any given state of production during cold weather and a relatively smaller portion during summer months.

Because of this variation in feed consumption from season to season (created by a change in environmental temperature) there will be a variation not only in the energy intake, but the intake of all the nutrients. Thus, if a feed, formulated to supply the optimal level of a nutrient during the winter months is fed during the summer months, a suboptimal level of this nutrient intake would result when the hen reduces her feed consumption during the summer months.

On the other hand, if a feed designed for summer production is fed during the winter months when there is an increased feed intake, a wasting of some nutrients would occur. Possibly the variation in recommended dietary protein levels for laying hens that are reported from various sections of the country is related to the climatic conditions under which the experiments (upon which the recommendations were based) were conducted. Further, it has been demonstrated that certain vitamin requirements are influenced by environmental temperature. Thus, there will be a trend toward refinement of rations for the laying hen not only in regard to season but also in regard to geographic location of the flock and housing conditions.

REVOLUTIONS—Although re-emphasis, re-evaluation and refinement will have the greatest emphasis on feeds and feeding programs in the coming year, there have been several new discoveries which, if they stand the test of time, will revolutionize some of our commonly accepted nutrition concepts.

The report from Iowa State University that crude enzyme supplementation of beef cattle rations will stimulate gains and improve feed efficiency is especially interesting. If further research confirms this report and it is



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Low center of gravity and plenty of clearance with *all* loading bins.

Oversize leak-proof *sliding door* hatches for fast and easy loading.

Slip-proof expanded metal catwalks for maximum operator safety in all weather.

Maximum-duty design provides *wide sack decks* running full length of tank on both sides; will carry up to 1,400 pounds of sacked material.

The FMC Bulk Transport System, with its light, rugged aluminum construction and all-mechanical design is now, more than ever, your answer to best bulk delivery at least ton-mile costs.

Truck mount models available in 8-16 ton capacities.

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Niacin	25 mg. per lb.
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2. **the fish factor**
3. **the fermentation or solubles factor**

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By mixing Econoferm in your feed you can offer your customers — conveniently — a product which supplies all the benefits of distiller's solubles.

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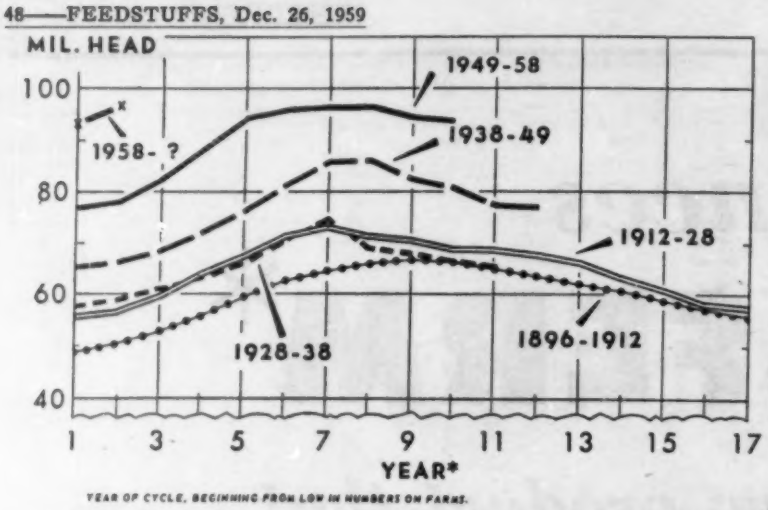

CATTLE CYCLE—Cattle numbers started upward and prices levelled out in 1959, so 1960 is likely to be the second year of increased production in the latest cattle cycle, which in the above chart prepared by the U.S. Department of Agriculture has its beginning compared with cycles of earlier periods. Higher feeder costs generally led to somewhat smaller price margins for feeder cattle during the past feeding season than in the previous one—and feeding margins are likely to continue narrow in the current feeding season.

definitely established that an enzyme(s) is responsible for the effect, it will certainly revolutionize a basic concept in beef cattle nutrition as, heretofore, it was generally believed that the microflora of the rumen synthesized a long list of enzymes that were capable of degrading our common roughages and grains. If this research can be repeated with consistent results, crude enzyme supplementation of beef cattle rations will undoubtedly be practiced in 1960.

It has been commonly accepted that man, monkey and guinea pig are the only species which require a dietary source of ascorbic acid. The report from Colorado which indicates an improvement in egg shell quality by supplementing the laying hen's diet with ascorbic acid will, if confirmed, certainly revolutionize this concept. If further work does confirm the earlier studies, and the conditions under which this response may be expected are defined, ascorbic acid will be used more frequently in laying hen diets in the coming year.

The statement that amino acid balance is of no importance in the rations of mature ruminants is a general belief. However, the work of Dr. Hale of the Chas. Pfizer & Co. research group, in which he demonstrated growth responses from lysine supplementation of ruminant rations, if confirmed, will undoubtedly question the accepted concept. Although present economic conditions will not allow the incorporation of lysine in beef cattle rations, this work is revolutionary and may open "new doors" in beef cattle nutrition from which new additives and new concepts may come forth that will find application in the coming year.

The report from the Nebraska Experiment Station which indicates that thyroprotein supplementation of baby pig diets will markedly improve gain and feed efficiency, may well be the outstanding applied swine nutrition discovery of the past year. If this work is confirmed and its efficacy demonstrated under somewhat more practical conditions (i.e., pigs weaned at a later date) it will find field application in 1960.

REGRESSION—There was a time that the feed industry could not hold its head as highly and as proudly as now. Further, during periods of low livestock prices there is a tendency for some in the feed industry to lower the quality of their feeds, regress about 30 years and sell on price. To be sure, there will be some regression in 1960. However, it might be well for us to recall the same principle in the feed industry that we have predicted for our livestock and poultry producers. That is, that the most efficient producers of a quality product will prosper and get bigger and the inefficient who are not willing to produce quality will be forced out. To be sure, 1960 is a year for maximum efficiency toward the production of quality feeds that will efficiently produce quality meat, milk and eggs.

New England Forage Analysis Plan Urged

BOSCAWEN, N.H.—A forage analysis program may be established for the entire New England region, Harry Mitiguy, farm economist for the Federal Reserve Bank of Boston and chairman of the New England Green Pastures Committee, told New Hampshire dairymen at their annual Green Pastures Roundup here.

Citing the success of the pasture program through the years, with outstanding gains in the production of good roughage feed for cattle, Mr. Mitiguy said further increases are needed. This need has resulted in the movement looking to a good New England forage analysis program, he said.

He reported that Pennsylvania already has such a laboratory system in operation, charging $5 per sample, but giving farmers complete analysis and advice.

'Climate-Blended' Laying Feeds Added To Line by Pillsbury

CLINTON, IOWA — Addition of "Climate-Blended Laying Feeds" to its line of feeds has been announced by Pillsbury's Best Feeds.

"It has been known for some time that requirements of laying hens for energy increase during the colder seasons of the year," according to Everett Blasing, director of nutrition and research. "Conversely, there is a lower energy requirement during the summer for maintenance of body weight and a high rate of lay."

Also, Mr. Blasing noted, there is a seasonal variation in the requirements for protein and other nutrients. "Pillsbury's Climate-Blended Laying Feeds adjust the protein and energy levels to meet the requirements of the weather and season," Mr. Blasing said.

The firm cites the following factors as major advantages of the climate-blended feeds—first, for the summer:

(1) Reduced summer egg production slump;

(2) Maintenance of adequate feed intake;

(3) Improved egg shell quality;

(4) Reduced mortality;

(5) Improved feed efficiency.

And for the winter:

(1) Improved winter body weight maintenance;

(2) Higher winter egg production, and

(3) Better feed efficiency.

The laying feeds are available now at all Pillsbury feed plants, according to Mr. Blasing. The complete line includes Laying Mash, Layeration, Cage Layeration, Breeder Mash and Breederation.

Merck Names Feed Sales Representative

RAHWAY, N.J.—Melvin C. Yeich has been named a feed products sales representative for Merck & Co., Inc., chemical division. He will serve North and South Carolina, according to James E. McCabe, director of marketing for agricultural products, Rahway.

Mr. Yeich will report to Frederick O. Church, region sales manager in Atlanta. He has had experience in both field sales and marketing with the firm since 1951.

Mr. Yeich received his bachelor of science degree from Temple University and has done graduate work in chemistry at the University of Pennsylvania.

ELEVATOR SOLD

BRYON, MICH. — Bryon (Michigan) Elevator Co. has been sold to Dale Brown of Owosso Elevator Co. and Vern Hamilton, Ralston Purina Co. district salesman, and will be known as the Bryon branch of Dalton Elevators. Harry Lamphere, manager, will move here from Owosso.

Hetrogen K is available as an easy to use premix and as a free flowing concentrate. Recommended for medication of drinking water. For complete information, write or call collect:

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A CASE HISTORY OF

Bemis Service that could mean a lot to you

Our principal business, of course, is to sell bags in any honorable way. But we much prefer to sell them through service, such as we had the opportunity to render for Ozark Feed Company, of Sedalia, Missouri. The Ozark-Bemis case history, briefly related here, shows some of the many ways in which we are able and anxious to work with customers:

A. CUSTOMER PROBLEM—Ozark needed a new dog food brand design.

BEMIS SERVICE SOLUTION—Working from a dog picture favored by the customer, Bemis artists created a strong selling design.

A.

B.

C.

B. CUSTOMER PROBLEM—The Ozark formula has a high fat content, with a tendency to "bleed" through normal multiwall bag construction.

BEMIS SERVICE SOLUTION—Many constructions were tested . . . until the most efficient, economical package was determined—a bag with a special inner ply.

C. CUSTOMER PROBLEM—Due to the excellent product (and maybe partly to the selling package), sales skyrocketed until production ran hopelessly behind (a happy problem, of course). An additional mixer was installed, and then there was a bag-packing bottleneck.

BEMIS SERVICE SOLUTION—A Bemis Packaging Service engineer recommended a Bemis Packer-Ette, with related Bemis Sewing Machine Pedestal and Conveyor. This handled the job perfectly, and the balanced production line is now keeping up with sales. 25-lb. and 50-lb. multiwalls and 5-lb. Flexi-Cartons® (all by Bemis) are flowing steadily from the Packer-Ette.

This case history involved only a few of the many phases of Bemis service. What service would help you? Whatever it is, it's yours for the asking.

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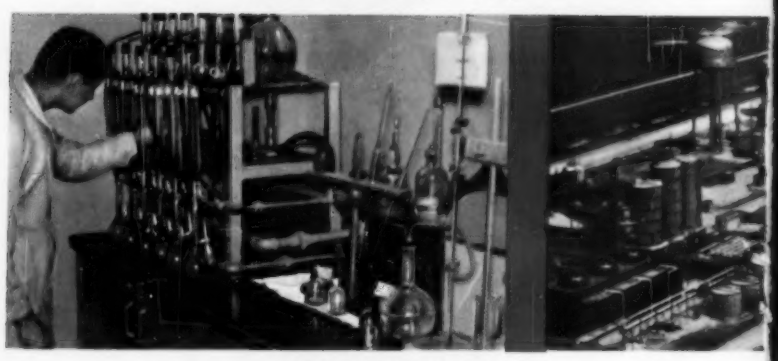

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Phosphorus	Calcium	Fluorine
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use higher dicalcium phosphate levels

FEEDING TRIALS PROVE BENEFITS

Rations supplemented with higher dicalcium phosphate levels produced faster liveweight gains and more efficient feed utilization in a series of cattle feeding tests at State Agricultural Experiment Stations.

IOWA STATE[1]

Tests conducted by Iowa State College researchers indicate cattle receiving higher dicalcium phosphate rations graded higher at slaughter and returned greater margins over feed costs. The Iowa State report concludes . . . in some cases a higher level of total ration phosphorus, possibly as high as 0.3 percent, may well be needed.

PURDUE[2]

According to a study conducted by Purdue University researchers, raising the phosphorus level in a corn-soy ration from 0.30 to 0.45 per cent improved rate of gain 29% and feed efficiency 6.6% when fed to growing swine on ladino pasture. A further increase in phosphorus to 0.60% improved feed efficiency 5.7%, but failed to stimulate gains further.

Several pigs on the corn-soy basal ration exhibited borderline phosphorus deficiency symptoms.

SOUTH CAROLINA[3]

An animal deficient in phosphorus from either hereditary genetic defects, or because of prior consumption of a low phosphorus ration may bloat, regardless of the level of nutrition in the feed crop. Therefore, a critical phosphorus deficiency in ruminants should be corrected through feeding of dicalcium phosphate or other mineral phosphates or by feeding high phosphorus concentrated feeds prior to being placed on luscious legume pastures.

TEXAS[4]

In feeding trials on the King Ranch in Texas, cows fed supplemental phosphorus weaned 39% more calves, averaging 50 pounds more weight per calf. In addition, feed lot operators in the Southwest have discovered that higher phosphorus levels result in faster gains.

USE MORE CORONET GRANULAR DIKAL IN YOUR FEEDS

1. Different Kinds and Amounts of Phosphorus in Fattening Cattle Rations. Agricultural Extension Service A. H. Leaflet 209. Iowa State College. Wise Burroughs, Arthur Raun, Edmund Cheng, C. C. Culbertson.
2. Phosphorus and Protein Levels for Growing-Finishing Swine on Legume Pasture. A. H. 215. Purdue University. C. E. Jordan, J. H. Conrad, M. P. Plumlee, W. M. Beeson.
3. Relation of Phosphorus Deficiency to Acute Bloat in Ruminants. H. P. Cooper, 69th Annual Report South Carolina Agricultural Experiment Station, Clemson, S. C., May, 1957.
4. Methods of Supplying Phosphorus to Range Cattle in South Texas. Texas Agricultural Experiment Station Bulletin 773. E. B. Reynolds, J. M. Jones, H. H. Jones, J. F. Fudge and R. J. Kleberg, Jr.

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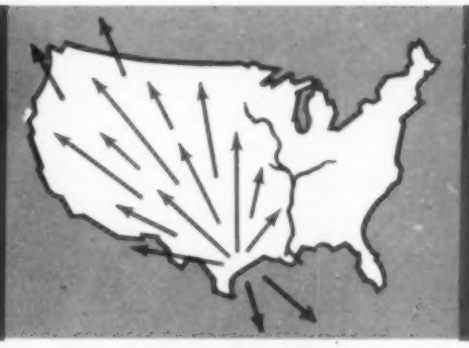

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50% of States Have Livestock Integration In Some Form, Sanitary Gathering Told

By Special Correspondent

SAN FRANCISCO—Fifty per cent of the states have some form of livestock integration, A. L. Sundberg of Des Moines, Iowa, chairman of the livestock integration committee, reported to the 63rd annual meeting of the Livestock Sanitary Assn., held at the Sheraton-Palace Hotel.

The 40 states responding to a questionnaire sent to the respective state departments of agriculture, indicate that there are now an estimated 11,850 integrated operations, ranging in size from small herds of 15 animals to the 2 million-bird flock in the broiler industry of a northeastern state.

Dairy herds are integrated in eight states, beef herds in eight, swine in 14, sheep in five and 24 states report various forms of integration in poultry, according to Mr. Sundberg.

On the question of health regulations, 18 states indicated that integration poses no increase in disease control problems. Two states in the midwest replied that health control was easier in integrated operations because: (1) Participants had to protect their investments, (2) there were fewer individuals to deal with, (3) integration stimulated a demand for "self vaccination" and (4) pool owners were more interested in preventive regulations.

Two states reported that health regulation problems were increased because of: (1) Variety in degree of owner interest, (2) lack of trained personnel, (3) lack of proper disease control practices and (4) presence of human carriers.

The livestock integration committee report shows that 35 states have no regulations governing integrated operations, two states have some control and one state is preparing legislation in this field. Two states are undecided on the subject, and three would provide controls when it became necessary.

John Herrick, D.V.M., Ames, Iowa, presented figures indicating what percentage of total livestock production was now coming from integrated operations. Nationally, this amounts to 10-20% of the cattle industry, 25% of lambs, 5-10% of hogs, 75% of turkeys, 10% of market eggs, 5% of milk, 90% of hatching eggs and 95% of broiler production, he said.

Cites Broiler Growth

As an example of progress in an integrated field, Dr. Herrick cited the growth of the broiler industry from 300 million birds in 1946 to 1.4 billion in 1958. In that period, prices dropped 30-15¢ lb.

California and Arizona lead in contract beef feeding, he reported, and Pennsylvania, California and Florida are attempting to make their pork consumption self-produced. Hog production, he indicated, is moving south from its traditional center in the Midwest under the impact of production costs, especially wages, he noted.

Health problems of integrated livestock production center around such questions as: (1) Pooling of animals from many sources, (2) increased financial loss, (3) manure removal and (4) fly population control. Disease control, Dr. Herrick indicated, does not present any immediate problems in the field of integrated production, and more stringent control can be expected as this field provides better opportunities to practice preventive medicine than in widely-scattered herds where owner interest in health problems varies greatly.

Veterinarians working with pooled or integrated operations undertake certain business responsibilities not encountered in their usual activities, Dr. Herrick pointed out. Parties to any integration program, he said, should check the following factors: (1) Period of contracts, (2) renewal of contracts, (3) cancellation of contracts, (4) assignment of interest, (5) legal relationships, (6) supplies to be furnished, (7) management decisions, (8) producer payments and (9) arbitration procedures. This last point is a result of union activity in the field, he said.

CHICKS FOR SUPPLY FLOCKS DOWN

WASHINGTON—Indicated domestic placement of pullet chicks for broiler hatchery supply flocks by leading primary breeders of broiler replacement stock totaled 1,697,000 chicks during November, according to the U.S. Department of Agriculture.

This was 17% less than domestic placements of 2,048,000 chicks during the same period in 1958. Total placements (domestic plus exports) were reported at 1,842,000, compared with 2,153,000 a year earlier.

The placement data include pullet chicks sold during the month, plus the number of pullet chicks expected from eggs sold during the preceding month. The primary breeders included in this report account for a large percentage of total supply of replacement pullets for broiler hatchery supply flocks, according to USDA. Sales of replacement pullets by these breeders provide an indication of the potential number of pullets available for addition to hatchery egg supply flocks several months before the pullets will actually move into the flocks.

Plant Interest Sold

FOREST, MISS. — Ray Fechtel, whose city-owned building is now under construction for his new Southeastern Processing Plant, has sold his interests in the Cullman, Ala., Golden Rod Packing Co.

Mr. Fechtel sold out to his partner, Forrest Ingram. The Forest plant is expected to be ready for production in May.

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Obtaining the savings inherent in bulk purchasing, eliminating the dust hazard, and greatly reducing handling costs are some of the ways Fuller Airveyor conveying systems cut operating expenses in the moving of dry, bulk materials.

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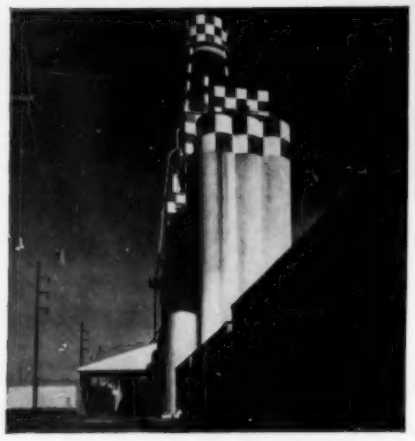
Operator controls unloading of feed ingredients at rate of 30 tons an hour — up 12 stories to storage, just by pushing a button.



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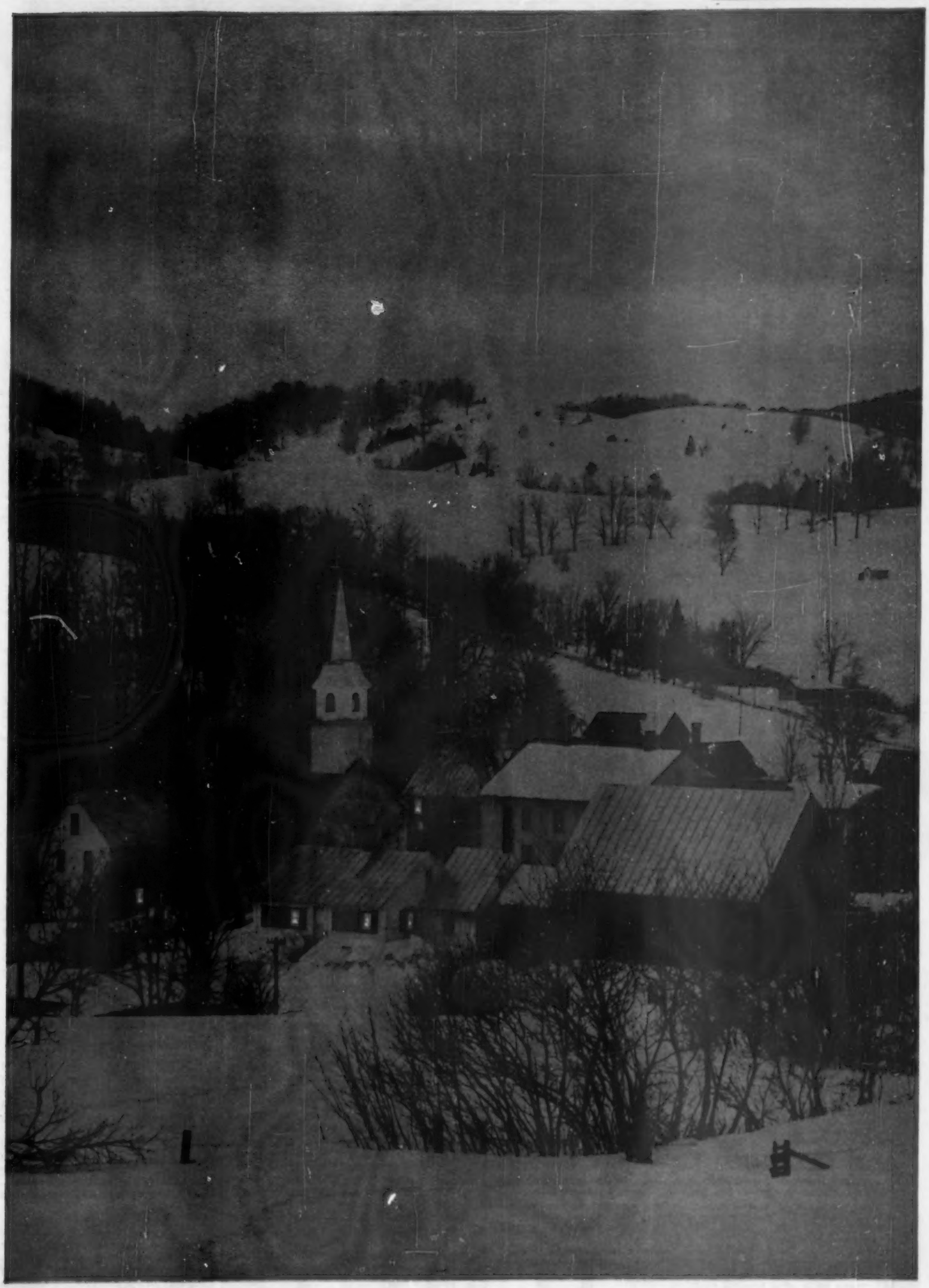

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"Or, maybe it's only because these EGGSHELL BRAND folks just promote the dickens out of their product . . . talking it up in the trade papers . . . always settin' up counter displays . . . and, in general, helping to make sales easy.

"On the other hand, it may be even simpler than that. Might be that dealers prefer 'em because poultrymen prefer 'em. And poultrymen prefer 'em because hens prefer 'em.

"Pretty tricky of us hens, I'd say."

EGGSHELL BRAND OYSTER SHELL
a product of
OYSTER SHELL CORPORATION
BALTIMORE, MARYLAND

FEED CONTROL COMMENT

By BRUCE POUNDSTONE
Secretary, Association of American Feed Control Officials
Kentucky Agricultural Experiment Station, Lexington

Relation of State Laws To the Delaney Amendment

Feed manufacturers continue to ask why state feed officials will accept registrations containing diethylstilbestrol and arsenicals and FDA refuse them. The explanation rests in a study of the laws involved. Most state laws permit the inclusion of an ingredient that under some circumstances may be "poisonous or deleterious" if it is added in such small amounts that when the feed is fed according to directions on the label, the feed will not be injurious. Such an ingredient is considered beneficial to the health and development of the bird or animal and is thus allowed.

The federal law in the main reads as do state laws in this respect, but with the passage of the Delaney Amendment, an important exception was introduced. This relates to the use of an ingredient known under some circumstances to cause cancer. Under the federal law what may at times be termed a deleterious substance may be used in feeds if proper use shows the amount is not injurious. It is when an ingredient "is found to induce cancer when ingested by man or animals" under any circumstance that exception is made. When this is true, it may not be used in any amount. This, in the interpretation of federal authorities, leaves them no other alternative than to prohibit use of such an ingredient.

In administering the amendment to the federal law, those in charge are faced with this further question: How is this to apply to products containing ingredients now prohibited by the "cancer clause" but had received permits before the effective date of the amendment? The decision is not to disturb those products already cleared containing items now declared as unsafe but as new proposals are presented, clearance will not be given. The cut-off date was May 30, 1959.

For some weeks after the May 30 date, FDA restrictions were such that even minor modifications in an application where a carcinogen was listed as an ingredient were returned without approval. This attitude has relaxed somewhat in what has been interpreted by some as a hopeful sign in an announcement dated August 14, 1959, which included the following: "The submission of a supplemental new-drug application is not required for changes made in the new drug, or in its labeling, or in the manufacturing facilities, or controls under which it is produced, that are not significant from the standpoint of the safety of the new drug as established by the original new-drug application. The holder of an effective new-drug application should submit to the new drug branch, in writing, full details of any proposed change or changes, and he will be notified in writing whether, in the FDA's opinion, a supplemental application is required for such change or changes."

In other words, if changes are to be made in a new-drug application that was effective previous to May 30, 1959, a new-drug application is not required but the new-drug branch of FDA should be given full details of the change in writing. The purpose of this is to enable FDA to determine whether or not a supplemental application will be required.

A product that was cleared previous to May 30, 1959, under a new-drug application for which no significant change is proposed can continue to be manufactured and sold. This presents no problem under present rulings of FDA and in state acceptance. Re-registrations of such products are now being received by states where required.

This leaves the question as to approval of products containing hormones and arsenicals that are new in the sense that applications have not been cleared before by a given company. In other words, these are products that were not in manufacture, had not received an effective new-drug application previous to May 30, 1959. Where this situation prevails, the answer from FDA is approval will not be given. Registration of such a product will, however, likely be accepted by states.

As stated earlier, state laws are permissive in this regard in that the ingredients are present in such small amounts and the directions of use provide that the products will not be injurious. The federal law, however, is interpreted as saying it makes no difference whether the ingredient is used in this way or not. If a cancer producing ingredient is present in any amount, no new applications will be approved. It is this distinction that results in some confusion in the application of the federal and state laws.

A manufacturer shipping a feed registered in his state and the receiving state, but without an acceptable new-drug application, must observe the interstate implications of such a transaction. If there is a question of safety from the standpoint of the "cancer" clause, the product would be in violation of the Food, Drug and Cosmetic Act if shipped across state lines.

Another important point: Such a manufacturer would be subject to the provisions of the federal statute if he accepted ingredients used from across state lines even though the final product is sold entirely in the state in which it is manufactured.

Pig Starter Ration Additives Up Gains

BROOKINGS, S.D.—Pig gains and feed efficiency were increased when feed additives were added to starter rations in tests at the agricultural experiment station at South Dakota State College.

Feed additives in starter rations fed to pigs 4-8 weeks of age produced gains that averaged 11.6-47.6% faster than those of pigs fed a regular ration. Feed efficiency also was increased in these tests.

A combination of streptomycin-penicillin-sulfaquinoxaline gave the fastest and most efficient gains, Dr. R. C. Wahlstrom of the animal husbandry department reports. Rate of gain was 39.5% better than with the basal ration at the 50 gm. level and 46.5% faster at the 100 gm. level. Feed efficiency was 25.8% better at the 50 gm. level and 23.9% better at the 100 gm. level.

Erythromycin, Aureomycin and furazolidone also increased rate of gain and feed efficiency in the trials.

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Patents Issued by U.S. Patent Office

EDITOR'S NOTE: Following are descriptions of patents issued recently by the U.S. Patent Office. The issuance of these patents is reported in the Official Gazette of the Patent Office.

♥ ♥

2,910,361

Animal Feed. Patent issued Oct. 27, 1959, to Eric C. Kunz, Arden, N.C. Original application made March 15, 1953; divided and this application April 3, 1959. A method which comprises feeding to ruminants, as a total replacement for a grain diet, a completed liquid food composition consisting essentially of an intimate mixture of urea and molasses, the amount of urea being about 3% to 4% by weight of the molasses, said composition being free of natural grain feeds.

2,909,461

Process of Combating Trichuris Infection of Domestic Animals. Patent issued Oct. 20, 1959, to Frank A. Ehrenford, Zionsville, Ind., assignor to Allied Laboratories, Inc., Kansas City, Mo. Application made Dec. 22, 1958. A process for combating Trichuris infections of domestic animals which comprises administration of an effective quantity of a substance from the group consisting of 3-methyl-1-pentyn-3-yl acid phtalate and non-toxic salts thereof to a Trichuris infected domestic animal.

2,910,360

Animal Feed Compositions. Patent issued Oct. 27, 1959, to John R. De Zeeuw and Frederick Sauer, Terre Haute, Ind., assignors to Chas. Pfizer & Co., Inc., New York. Application made Nov. 6, 1957. A growth-accelerating animal feed composition which comprises a standard, nutritionally balanced feed composition, about 10 to about 500 grams of a tetracycline-type antibiotic per ton of said feed composition and about 100 mg. to about 20 grams of an antifungal agent per ton of said feed composition, said antifungal agent being selected from the group consisting of rimocidin and nystatin.

2,912,331

Dry Feed Product and Method of Making Same. Patent issued Nov. 10, 1959, to Willard Turner and Kenneth N. Wright, Decatur, Ill., assignors to A. E. Staley Manufacturing Co., Decatur, Ill. Application made Jan. 7, 1957. A dried, free flowing feed material comprising soybean hulls impregnated with a substantial quantity of highly hydrophyllic and hygroscopic feed ingredients.

2,913,340

Animal Feed Supplement. Patent issued Nov. 17, 1959, to Francis W. Chornock, Farmersburg, and Joseph M. Pensack, Terre Haute, Ind., assignors to Commercial Solvents Corp., Terre Haute, Ind. Application made Jan. 22, 1958. In an animal and poultry feed supplement containing fermentation residues, the improvement which comprises a mixture of a nutrient diluent and **Gibberella fujikuroi** mycelial cake in small but effective amounts as an animal and poultry growth stimulant.

2,915,436

Process for the Attenuation of Infectious Canine Hepatitis Virus and a Vaccine Prepared Therefrom. Patent issued Dec. 1, 1959, to Arnold Howard Fieldsteel, Zionsville, Ind., assignor to Allied Laboratories, Inc., Kansas City, Mo. Application made April 11, 1955. A process of attenuating infectious canine hepatitis virus for the production of a vaccine capable when injected into dogs of immunizing them against infectious canine hepatitis, which comprises introducing an inoculum of virulent infectious canine hepatitis virus into a nutrient fluid tissue culture medium which is non-toxic to said virus and which contains viable cells of tissues of the group consisting of canine kidney, canine uterus and canine testicle incubating said nutrient fluid tissue culture medium until a cytologic effect is produced on said tissue, thereafter separating an inoculum of said virus and serially passing the virus through other such tissue cultures for not less than about 50 passages.

2,915,437

Method of Controlling Brucellosis. Patent issued Dec. 1, 1959, to Victor Richard Berliner, North Branch, and Heron O. Singher, Plainfield, N.J., assignors to Ortho Pharmaceutical Corp. Application made May 11, 1956. A method of preparing immunizing antigens effective in the vaccination of cattle which comprises the steps of extracting a living Brucella culture with an aqueous alkaline solution, having a pH greater than 7 and less than 11, and separating the bacteria from the aqueous alkaline solution.

2,915,438

Preparation of Brucella Antigen. Patent issued Dec. 1, 1959, to Victor Richard Berliner and William Bert Gilardi, Somerville, N.J., assignors to Ortho Pharmaceutical Corp. Application made Aug. 31, 1956. In a method of preparing immunizing antigens effective in the vaccination of cattle wherein a living Brucella culture is extracted with an aqueous alkaline solution and the bacteria separated from the aqueous alkaline solution, the improvement which comprises incubating the Brucella bacteria in an aqueous nutrient medium for 48 hours at 37° C., adding one per cent by weight of sodium carbonate to said medium, reincubating the so-treated medium for 12 to 48 hours, and then separating the aqueous phase from the bacteria.

2,908,608

Process of Alleviation of Bloat in Ruminants Using Citric Acid Esters. Patent issued to Herbert G. Luther, Terre Haute, Ind., assignor to Chas. Pfizer & Co., Inc., New York, N.Y. Application made July 2, 1957. A process for the alleviation of bloat in ruminant animals, which comprises administering to the animals a compound chosen from the group consisting of lower trialkyl esters of citric acid and acetyl derivatives thereof wherein the alkyl groups have from one to eight carbon atoms.

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At 40 Pounds Per Cubic Foot

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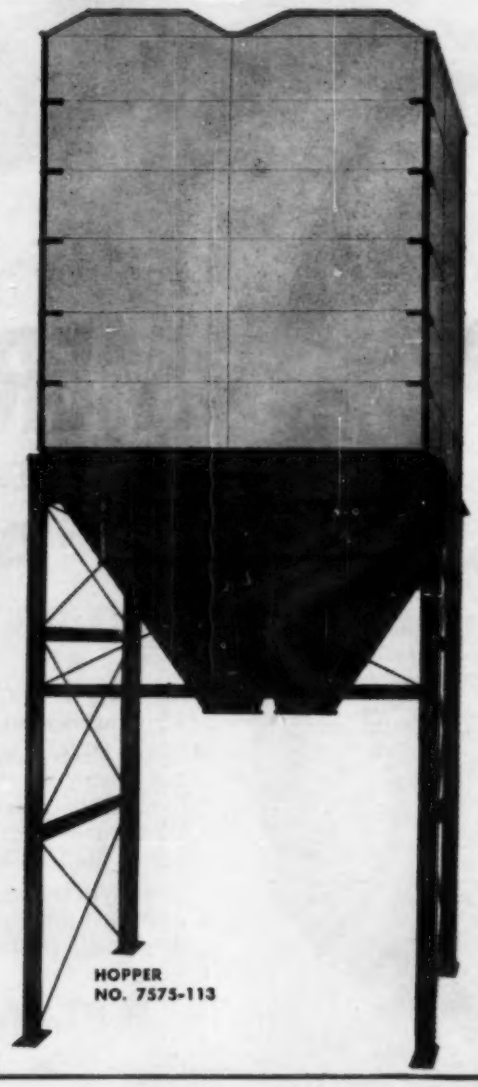
The Lemanco system of prefabricating steel BULK STORAGE BINS for inside or outside use is sufficiently flexible that custom planned storage can be offered at mass production prices and delivery. Modular design permits shipment by truck to all points.

The solidly welded base and the Lemanco patented corner holding the side sheets in tension introduces a new concept in the construction of feed storage facilities. Shown are two examples of bin clusters with capacities of 20 tons and 94 tons. These bin clusters are formed by using four hoppers with common wall partition giving four storage compartments.

Lemanco bins are designed for inside or outside storage with models available for side draw or corner draw. This construction permits joining in a straight line as well as shown.

When inquiring about these bins be sure to specify if pneumatic delivery will be used.



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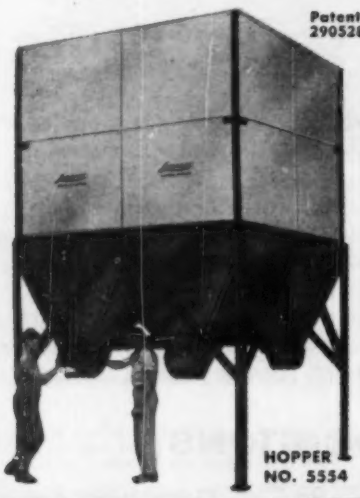
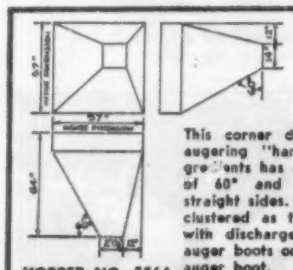


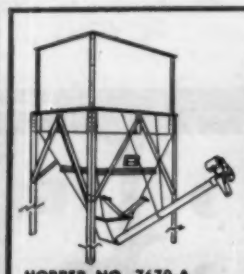
Patent 2905283

HOPPER NO. 5554



This corner draw hopper for augering "hard-to-handle" ingredients has a minimum pitch of 60° and two practically straight sides. Hoppers can be clustered as the 5554, above, with discharge into individual auger boots or into a common auger boot.

HOPPER NO. 5564



This general purpose side-draw bin for use with auger or weigh buggy has a capacity of 5¾ tons and a maximum capacity of 8¾ tons with another tier of sides. The bin can be used inside as well as outside. Inverted rotary gates, as shown, permit partitioning. Other type gates also available. The minimum 60° pitch of this hopper makes it useful for many applications. It can also be clustered.

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HOPPER NO. 7670-G

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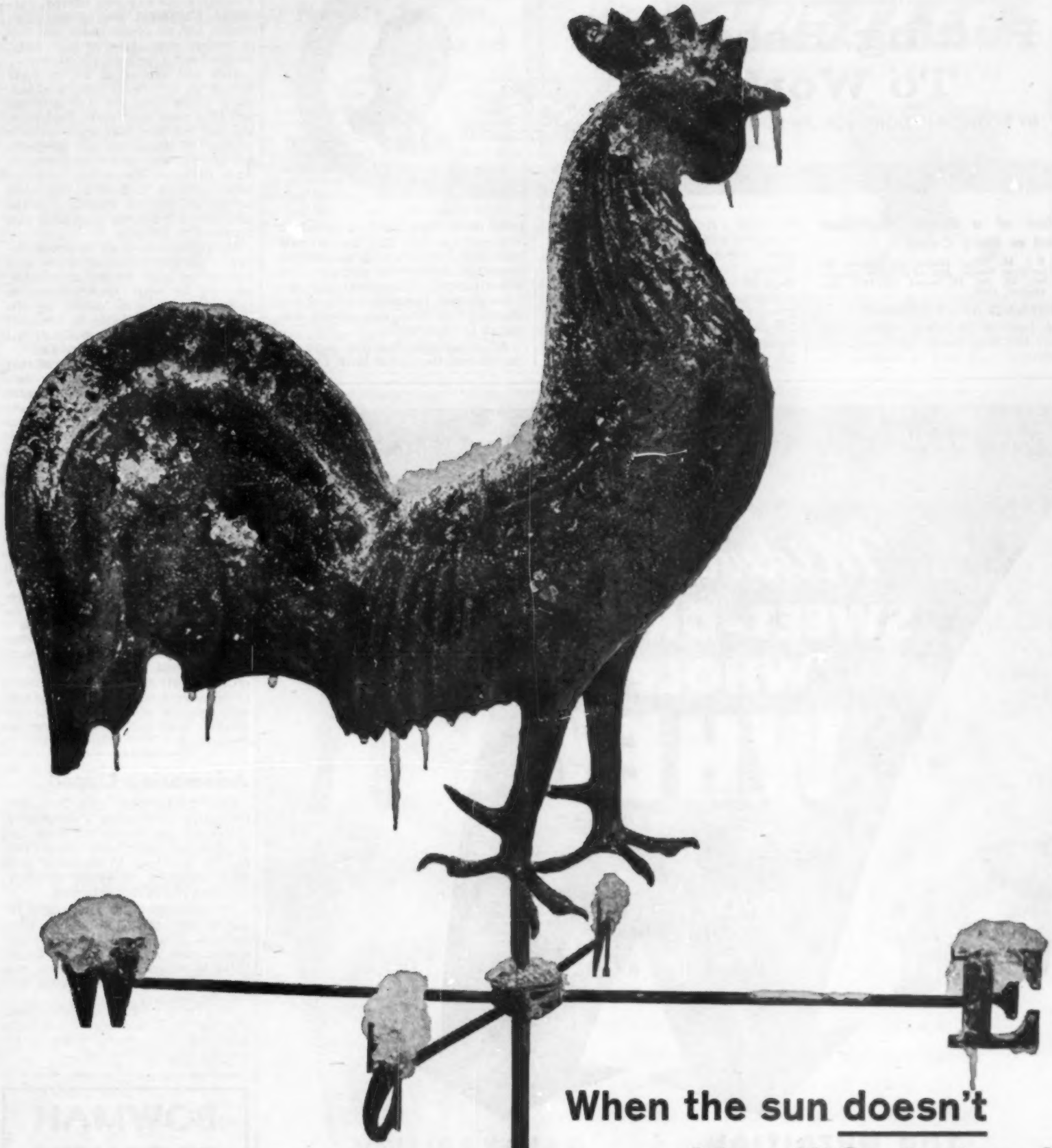

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Effect of a Simple High-Fiber Feed on Dairy Calves

● J. M. Wing, Florida Agricultural Experiment Station; Journal of Dairy Science, Vol. 42, No. 11, pages 1877-1879, November, 1959.

ABSTRACT AND COMMENT

A total of 26 calves, divided into pairs including Jersey, Guernsey, and Holsteins were used to evaluate the effects of a simple high-fiber (13.9%) concentrate mixture versus a "complex" low-fiber (6.0%) concentrate mixture for young calves from four days of age to 60 days of age. The "complex" calf meal contained 300 lb. ground shelled corn, 250 ground oats, 100 wheat bran, 130 solvent 41% cottonseed meal, 100 dry non-fat milk solids, 8.5 common salt, and 17 steamed bone meal. This mixture contained 18% crude protein. The "simple" mixture had the following composition (pounds): 600 ground snapped corn, 400 citrus pulp, 200 solvent 41% cottonseed meal, 14 common salt, and 28 steamed bone meal. This mixture contained 17.8% protein.

All experimental calves were removed from the dam at birth, confined in individual pens bedded with shavings, and good-quality sun-cured Pangola grass hay was offered free-choice. Calf-meal was offered free-choice, and all concentrates and hay in feeders were removed once daily, weighed and a fresh supply offered.

Milk was offered at 9% of body weight in two equal daily portions, using nipple pails the first 3 weeks and then from open pails. Colostrum was fed the first four days, while a mixture of colostrum and skimmilk (⅓ and ⅔) was used from five to 21 days, inclusive. Thereafter, reconstituted skimmilk (1 lb. of air-dry solids per gallon) was fed. Vitamin A at the rate of 15,000 I.U. per head daily was dispersed in the milk.

No differences were observed between the two groups of calves with respect to gain, height at withers, scouring or other abnormalities, or general health. Two calves fed the high-fiber diet consistently selected the finer particles, left many of the corn-cob particles in the feed-box.

Whitaker et al. (1957) showed that additions of alfalfa meal and/or corn cobs and shucks to a fairly complex calf starter to raise the fiber content of the calf meal to 13% did not affect its feed value for young calves. Murley and associates (1958) also reported that a fairly simple mixture was fully as satisfactory for young calves as a more complex one.

It should be noted, however, that colostrum milk and/or reconstituted skimmilk was fed for 60 days in these experiments conducted at Florida. Many dairymen wean calves at much earlier ages in commercial practice today—whether or not the same results would be secured under very restricted milk feeding conditions is a questionable point. Certainly, when milk is fed in limited amounts, more attention will have to be given to protein levels of starters, complexity of ingredients, vitamin levels, and possibly quality of ingredients in my opinion. More work is still needed on the subject.

Advertising Upped

SAN LEANDRO, CAL.—Poultry Producers of Central California is increasing its budget for feed and membership advertising about 16% for the new year as compared with 1959, according to Frank Melchior, manager of member relations.

The additional sum will be used for adding new radio stations in some sections. The feed and membership section also will increase its advertising in magazines. Newspapers will be used for special promotions during the year.

The Poultry Producers advertising program for Nulaid eggs also is to be increased 12%, mostly going to increased radio advertising.

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Predictions of Poultry Industry's Future Differ at Farm Bureau Poultry Session

By F. C. BISSON
Special Correspondent

CHICAGO — The recent move by the government to halt sales of chickens treated with stilbestrol amplified interest in the annual poultry conference sponsored here by the American Farm Bureau Federation at the Morrison Hotel.

As is the case in any good panel discussion, there was some disagreement among the speakers regarding the future of the poultry industry.

While one said "most of the really dramatic developments in the industry are history," another said he believed there are more "frontiers" ahead.

Coordinating the production and marketing of poultry and eggs was given repeated attention.

The Farm Bureau's poultry conference program consisted of two segments, both of them round table discussions: One designed to bring out answers to the question, "What Future for the Poultry Industry?," and the other a discussion of "Commercialization of the Egg Industry." The commercialization subject was discussed from three approaches: Corporation, integrated and cooperative.

Stacey W. Cole, president, New Hampshire Farm Bureau Federation, was chairman for each of the panels, and H. H. Alp, AFBF's director of market development, was moderator.

What's Ahead?

Panelists on the platform for the poultry industry future discussion were Dr. Ralph L. Baker, professor of marketing, Pennsylvania State University, and O. A. Hanke, vice president, Watt Publishing Co., Mt. Morris, Ill. Hermon I. Miller, director, poultry division, U.S. Department of Agriculture, was unable to participate as planned, but Mr. Alp read a resume of what Mr. Miller would have said.

Many in the audience indicated that they regretted Mr. Miller's absence, because they would have enjoyed asking him questions about recent official statements about the use of stilbestrol to produce caponettes and the impact of these statements on the buying habits of the average urban housewife.

According to the statements read by Mr. Alp, Mr. Miller seemed to feel that the poultry industry has already passed through the period of major change, the "shake-down cruise" is now completed and the future "for those remaining should be brighter."

While admitting there will still be further progress of a technological character, Mr. Miller said the majority of really dramatic developments in the industry were history. He looks for producing units to show further declines in numbers but their individual size will increase. Specialization, in his opinion, will continue.

On the marketing front, Mr. Miller believes that there will be a substantial and active increase in areas such as consumer packaging of both shell eggs and poultry meats. He also predicted a further trend toward what is known in the trade as "convenience foods." As to a broadening in per capita consumption of poultry products, Mr. Miller assumed a somewhat negative approach, in that he looks for it to stabilize around current levels. "Producers should interest themselves in programs calling for production for known markets," he said.

Dr. Baker presented an outlook as seen from the position of a land-grant college.

He made it plain that he did not see eye-to-eye with Mr. Miller's summation. He refused to subscribe to the idea that there are no more frontiers to cross and said he did not believe the poultry industry would have to be satisfied with "status quo." He relegated to the past the old idea of producing chickens, eggs and turkeys and hoping that in some miraculous manner a market will be provided for them.

He spoke of planned production for specific outlets. He argued against "hit or miss" methods of gearing production to consumption and stated that the poultryman of the future will want to have the seasonal production of the product, whatever it is,

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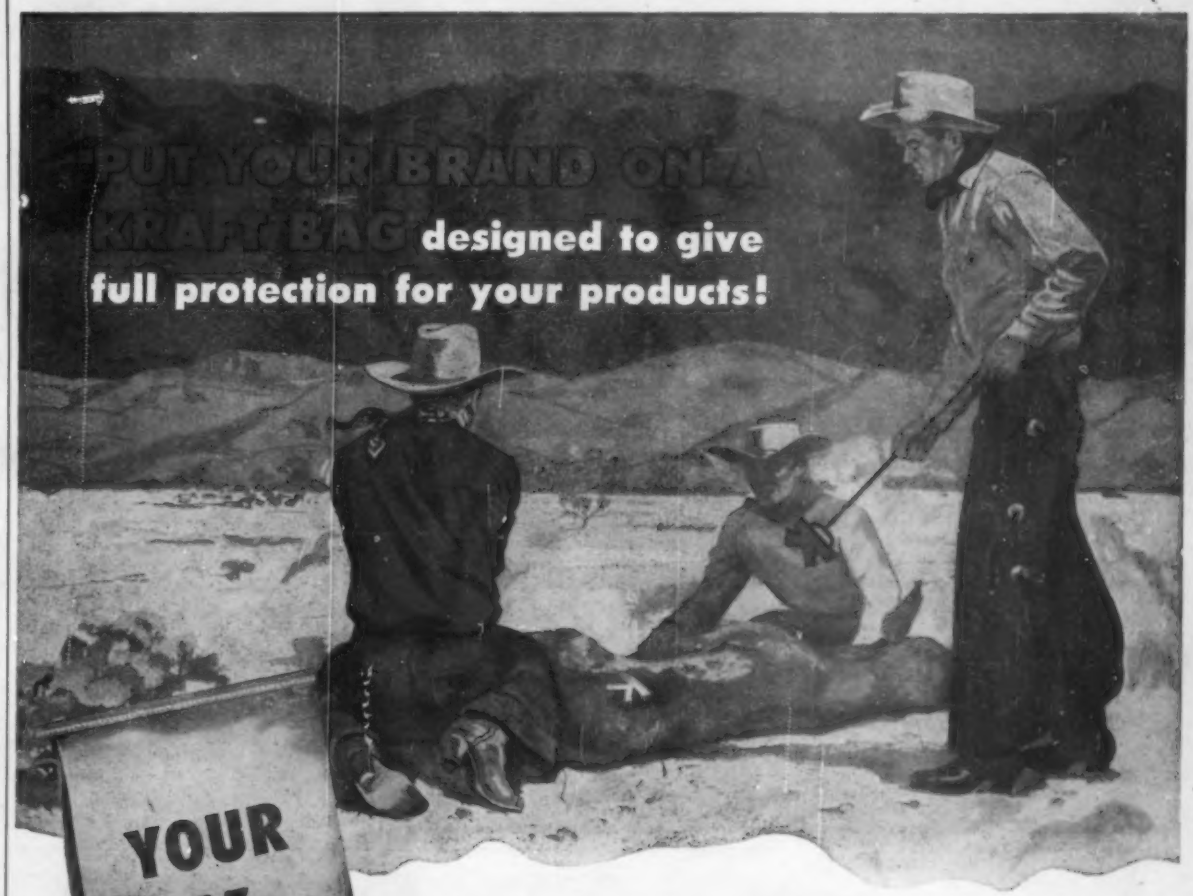

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to balance very closely with the seasonal demand for that product.

On the subject of the sale of broilers to consumers, Dr. Baker said he anticipated broilers will be more sensitive to relative changes in price than will eggs. He also saw the possibility of the sale of turkey parts being merchandised successfully and hazarded the guess that this in turn might replace the present demand for the "apartment size" turkey.

Returning to the subject of joint planning in production and marketing of eggs, Dr. Baker said that if that is to be done, there must of necessity be what he termed "a single decision making body," and on that body would rest the responsibility for contracting for such items as hatching eggs, baby chicks, ready-to-lay pullets, feed and technical advice. But he cautioned that in such contracting, serious consideration would have to be accorded to the bargaining ability that might be lost as well as gained.

Dr. Baker was of the opinion that no one kind of meat is likely to be able to hold any long-run advantage over any other kind. He said the ability of poultry meats to compete with other meat products is likely to be more dependent on what the consumer thinks or assumes about a number of things, such as the ease with which they are prepared for the table, or whether they are more or less liable than other kinds of meat to cause, cure or have no effect on cancer, heart disease and other biological enemies of the human race.

From the standpoint of an industry observer, Mr. Hanke, trade paper publisher, said the basic problem facing the poultryman of the future is not how to produce eggs. Instead, it is where to sell them. He put the turkey grower and the broiler raiser in the same category as the man who raises and maintains laying flocks. Everyone knows, said Mr. Hanke, that mass production of eggs, broilers or turkeys is the easiest and most economical way of doing it. But at the same time, while this is being done, the selling opportunities of the three commodities mentioned are greatly circumscribed.

Mr. Hanke named three basic business principles which must eventually encompass American agriculture: (1) Factory system of production, (2) production scheduling and (3) sales and merchandising.

Because the poultry industry appears to have made further progress in the agricultural "revolution" than many other phases of animal agriculture, Mr. Hanke feels that it is likely to have to face up to and meet the challenge of these principles sooner than the other segments of animal agriculture.

Commercialization

The three-man panel which discussed "Commercialization of the Egg Industry" was composed of: R. M. (Rollie) Hendrickson, General Mills, Inc., Minneapolis, who discussed the subject from the corporation angle; J. D. Sykes, Ralston Purina Co., St. Louis, who discussed integration, and Pete Sikkema of the Michigan Farm Bureau, who outlined the cooperative approach.

Mr. Sykes told of horizontal integration. He defined horizontal integration in the classic manner—with the ownership of each major segment of an industry by separate interests which cooperate with each other in a voluntary manner. He described an ideal horizontally integrated operation as one in which the producer of eggs reserves complete freedom in managing his plant as he wishes but, at the same time, enjoys all the economic benefits accruing to a really big outfit through voluntary agreements with his source of supplies as well as his avenues of distribution.

Mr. Sykes said this type of integration leads to less financing by industry and more by banks and believes that the individual poultryman holds the key to the ultimate course that will be taken by commercialization in the egg business.

The choice of contractual arrangements will set the pattern for future trends in the egg industry, according to Mr. Sykes.

Egg Programs Described

Mr. Hendrickson, poultry feeds marketing manager for General Mills, observed, "One must remember that the future is in the hands of the woman who pushes the basket around in the grocery store or supermarket."

Speaking specifically of GMI's egg programs, Mr. Hendrickson stated that in the past the feed division had been only a supplier of feeds, but now it is moving into not only growing but also contracting and processing—and the next step, promotion of the poultry product.

Characterizing marketing as the most serious problem that now faces the poultry industry, he said that GMI's feed division has two programs, both aimed at orderly marketing. One of those programs is designed for the producer who wishes to remain independent. It involves: (1) Brand name promotion, (2) coupon tie-in with other General Mills products, (3) advertising banners and (4) low temperature cases. For the farmer looking for stable income, the second program is aimed at quantity and quality control. Under the latter set-up, the company supplies the birds, feed, medicine and management supervision, while the operator furnishes the buildings and the labor.

Speaking for the cooperative approach, Mr. Sikkema said the Michigan Farm Bureau's plan calls for two objectives. The first of these is to increase the bargaining power of egg producers, and the other is to develop producer-oriented programs.

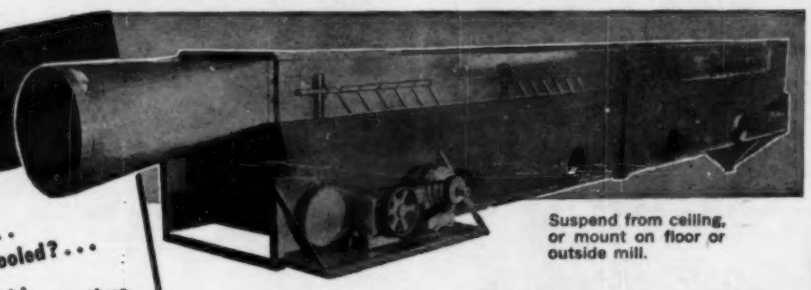
Quantity and quality on a hard and fast schedule must be a primary assurance, said Mr. Sikkema. And he emphasized that the type of contract handled by the Michigan Farm Bureau does this by the simple expedient of penalizing the producer who fails to meet those commitments "on the head."

He displayed the Michigan Farm Bureau egg carton as the "badge of the very acme in quality fancy fresh eggs" and stated that as the result of the organization's cooperative program, the demand for its eggs far exceeds the supply.

FEED FIRM OPENED

SILVER CITY, N.M.—R. C. Manning has opened Dick Manning Feed & Seed Co. here.

Pellet Cooling Problems?



Suspend from ceiling, or mount on floor or outside mill.

- Too many fines? . . .
- Pellets hang up in cooler? . . .
- Larger cubes inadequately cooled? . . .
- Uneven cooling of pellets? . . .
- No satisfactory control of retention time of pellets in cooler?

WENGER HORIZONTAL PELLET COOLERS are the answer TO PERFECT COOLING OF HARD-TYPE PELLETS!

Wenger Horizontal Pellet Coolers carry the pellets through a bath of exhaust air on an endless wire mesh belt that handles pellets from 3/16" to range cube size. Variable speed drive on conveyor provides necessary speed variation for best cooling and moisture control of different size pellets. With no vertical movement of pellets and no baffle plates in cooler, ratio of fines is greatly reduced. Cooler can be suspended from ceiling or mounted on floor. Also available in two-stage superimposed coolers, delivering pellets immediately under intake of upper cooler. Built in 14, 18, 24 and 30 ft. lengths . . . capacities of 3 tons to 30 tons per hour.

Write today for complete information

Wenger Mixer Mfg. Co.
SABETHA, KANSAS Phone 111

Producers of the World's Finest Hi-Molasses Pellet Mills, Molasses and Animal Fat Mixers and Feeders

Convention Calendar

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

June 19-21—Indiana Grain & Feed Dealers Assn.; Mid-Summer Convention; French Lick-Sheraton Hotel, French Lick; sec. Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

Sept. 21-23—National Feed Ingredients Assn.; Liggetts Holiday Inn, Burlington, Wis.; sec.; Paul W. Bonewitz, 212 Equitable Bldg., Des Moines, Iowa.

Jan. 4-5 — Kansas Formula Feed Conference; Kansas State University, Manhattan, Kansas.

Jan. 4-8 — Retail Feed Dealers Training School; University of Minnesota, St. Paul; Dr. J. O. Christianson, Director of Agricultural Short Courses, Institute of Agriculture, St. Paul 1.

Jan. 5-7—National Turkey Federation; Hotel Leamington, Minneapolis; sec., M. C. Smali, P.O. Box 69, Mt. Morris, Ill.

Jan. 6—Beef Research Day; South Dakota State College, Brookings.

Jan. 14—New Jersey Poultry Disease Institute; Rutgers University, New Brunswick, N.J.; R. L. Squibb, chairman, Poultry Science Department.

Jan. 16—Florida State Poultry Producers Assn.; Angebilt Hotel, Orlando, Fla.

Jan. 17-19—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis, Ind.; sec., Fred K. Sale, 600 Board of Trade Building, Indianapolis 4, Ind.

Jan. 17-19—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis; sec., W. D. Flemming, 112 Grain Exchange Bldg., Minneapolis, Minn.

Jan. 22-23 — New Mexico Grain & Feed Dealers Assn. Winter Meeting; Cole Hotel, Albuquerque; sec., Parley Jensen, P.O. Box 616, Albuquerque.

Jan. 25-27 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Jan. 26—Nevada Feed Conference; Education Building Auditorium, University of Nevada, Reno.

Feb. 2-3 — Agricultural Industries Forum; University of Illinois, College of Agriculture, Urbana; Department of Agricultural Economics, 805 Mumford Hall.

Feb. 2-3 — Hoosier Turkey Trot; Spring Mill State Park., Mitchell, Ind.; Indiana State Poultry Assn.; Inc., Department of Agricultural Extension, Purdue University, Lafayette, Ind.

Feb. 2-4 — American Dehydrators Assn.; Broadmoor Hotel, Colorado Springs; exec. vice pres., Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 3-4—Illinois Feed and Nutrition Conference; University of Illinois, Urbana; K. E. Harshbarger, Dairy Science Dept.

Feb. 4-5—Oregon Animal Industry Conference; Oregon State College, Corvallis, Ore.; chm., Dr. J. E. Parker, Poultry Husbandry Department.

Feb. 4-5—New Hampshire Poultry Health Conference; University of New Hampshire, Durham; Richard Warren, Poultry Department.

Feb. 8-9—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry Dept.

Feb. 8-9—Midwest Feed Manufacturers Assn.; Muehlebach Hotel, Kansas City; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Feb. 8-11—Illinois Cattle Feeder Days; University of Illinois, Dixon Springs Experiment Station, Robbs.

Feb. 10-11—Pacific Northwest Feed Mill Production School; Chinook Hotel, Yakima, Wash.; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

Feb. 11—Boston Grain and Flour Exchange Annual Banquet; Sheraton-Plaza Hotel, Boston; chm., Paul Sutliff, 177 Milk St., Boston, Mass.

Feb. 12 — Washington State Feed Assn.; Chinook Hotel, Yakima, Wash.; annual convention; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

Feb. 12-14—Fact Finding Conference, sponsored by the Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 59 East Madison, Chicago, Ill.

Feb. 21-23 — Ohio Grain & Feed Dealers Assn.; Commodore Perry Hotel, Toledo; sec., George G. Greenleaf, 5625 N. High St., P.O. Box 121, Worthington, Ohio.

Feb. 23-24—Virginia Feed & Nutrition Conference; Hotel Roanoke, Roanoke; J. Paul Williams, sec., Virginia State Feed Assn., 615 E. Franklin St., Richmond, Va., or Prof. Paul M. Reaves, Department of Dairy Science, Virginia Polytechnic Institute, Blacksburg, Va.

March 3—Illinois Swine Day; Uninois, Urbana; K. E. Harshbarger, Dairy Science Dept.

March 7-8—Grain & Feed Dealers National Assn.; Hotel Muehlebach, Kansas City; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 5, D.C.

March 17-18—Oregon Feed & Seed Dealers Assn.; New Sheraton Hotel, Portland, Ore.; mgr., Russ Hays, 702 Lewis Bldg., Portland, Ore.

March 17-18 — Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Richard D. Creek, University of Maryland, Department of Poultry Husbandry, College Park.

March 23—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati; sponsored by Distillers Feed Research Council; exec. director, Dr. Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati, Ohio.

March 23-24—National Broiler Industry Conference; Dinkler-Plaza Hotel, Atlanta, Ga.; vice pres., Frank Frazier, P.O. Box 368, Richmond, Va.

March 29—New Jersey Poultry Nutrition Institute; Rutgers University, New Brunswick, N.J.; R. L. Squibb, chairman, Poultry Science Department.

March 31-April 2—Pacific Dairy & Poultry Assn. Exposition and Convention; Stardust Hotel, Las Vegas, Nev.; association office, 1304 E. 7th St., Los Angeles 21, Cal.

April 1-3 — Texas Grain & Feed Assn., Shamrock Hotel, Houston; sec., Ray B. Bowden, 407 Fort Worth Club Bldg., Ft. Worth, Texas.

April 5-7—Nebraska Grain & Feed Dealers Assn.; Pershing Municipal Auditorium, Lincoln; sec., Howard W. Elm, Trust Bldg., Lincoln, Neb.

April 11-13 — Poultry and Egg National Board, LaSalle Hotel, Chicago, Ill.; mgr., Floyd Geil, 8 S. Michigan Ave., Chicago 13, Ill.

April 21-23—California Hay, Grain & Feed Dealers Assn.; Ambassador Hotel, Los Angeles; sec., John Gilmore, Blue Anchor Bldg., 1400 10th St., Sacramento 14, Cal.

April 21-23—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

April 22 — Nebraska Livestock Feeders Day; University of Nebraska, College of Agriculture, Lincoln; chm., Wm. J. Loeffel, Animal Husbandry Dept., Lincoln 3, Neb.

May 1-4—National Fisheries Institute; Hotel Fontainebleau, Miami Beach, Fla.; asst. gen. mgr., Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

May 9-11 — American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

May 9-11 — Association of American Feed Control Officials; Sheraton-Blackstone Hotel, Chicago; sec., Bruce Poundstone, Feed and Fertilizer Dept., Agricultural Experiment Station Bldg., University of Kentucky, Lexington.

June 13-15 — American Association of Feed Microscopists; San Antonio, Texas; E. E. Brown, Office of State Chemist, Texas Agricultural Experiment Station, College Station.

June 14-15 — Alabama Poultry Industry Assn.; Municipal Auditorium (Exhibits) and Thomas Jefferson Hotel, Birmingham, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

June 14-17—NEPPCO Egg Quality School; Rutgers University, New Brunswick, N.J.; Dr. A. Van Wagenen, NEPPCO, 10 Rutgers Place, Trenton 8, N.J.

July 23-26 — Georgia Feed Assn.; General Oglethorpe Hotel, Wilmington Island, Savannah; sec., Will L. Kinard, Suite 210, 3240 Peachtree Road Bldg., Atlanta 5, Ga.

Sept. 1-6—International Congress on Nutrition; Sheraton-Park Hotel, Washington, D.C.; sponsored by International Union of Nutritional Sciences; sec., Milton O. Lee, 9650 Wisconsin Ave., Washington 14, D.C.

Sept. 21-23 — Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Oct. 5-7—Texas Nutrition Conference, Texas A&M College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 11-12—Virginia State Poultry Federation convention and trade show; Hotel Roanoke, Roanoke, Virginia; sec., J. Paul Williams, 615 East Franklin Street, Richmond 19.

SELLIN' SAM — **By Jim Zilverberg**

"Will you present my card?"

CALENDAR FOR 1959-60

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Poultry Problems Discussed at Ohio Management Clinic

PIQUA, OHIO—Current problems in raising poultry were the major topics under discussion by authorities from all over the U.S. before a record gathering at the Yieldmor Poultry Management and Disease Control Clinic held here recently under the sponsorship of Yieldmor Feeds, Inc.

Bruce Davisson, Columbus, secretary of the Ohio Poultry Assn., told the group how the association operates and what it is doing to promote the distribution and the sale of poultry and eggs in Ohio. Following this clinic-opening talk, Dr. Edward C. Naber of Ohio State University spoke on "Feeding and Raising Methods for Growing Pullets." Dr. Naber told of recent work conducted in the feeding and development of pullets for the laying flock.

The first of two panels of the day discussed practical day-to-day problems that confront the poultrymen. The panel consisted of Harry Amstutz, Celina, Ohio; Harlan Fleming, Steubenville, Ohio; Irvin Grassbaugh, Mount Vernon, Ohio; Ray Phillips, Pekin, Ind.; Earl Short, Napoleon, Ohio, and Ralph Strome, Versailles (Ohio) Poultry Producers Assn. Panel moderator was Dr. A. R. Winter, Ohio State University.

W. S. Thompson, Ohio Department of Agriculture, closed out the morning sessions with a talk on "Protection for the Poultrymen." He told how growers are assured of getting the feed to purchase and how that feed is controlled in Ohio.

William M. McCullough, representative to Congress, opened the afternoon session with a discussion of broiler and poultry problems and asked producers to let him know if they thought the government should help them with their problems. Congressman McCullough served on the recent select committee at the 85th Congress on problems in the poultry industry.

One of the highlights of the conference was the disease control panel, moderated by Dr. Clyde A. Marsh, Ohio State University. The panel was made up of veterinarians. On the panel were: Dr. Donald Awe, Rahway, N.J.; Dr. Leonard P. Bailey, Piqua, Ohio; Dr. Harry E. Goldstein, Reynoldsburg, Ohio; Dr. J. F. Long, Reynoldsburg, Ohio, and Dr. James R. Wiley, Myerstown, Pa.

The clinic was conducted under the direction of George C. Gibson, general manager of Yieldmor.

OHIO DISEASE CONTROL CLINIC—These are some of the men who took part in the Yieldmor Poultry Management and Disease Control Clinic held recently at Piqua, Ohio. Discussing the program are (left to right): George C. Gibson, general manager of Yieldmor Feeds, Inc., Piqua; Gordon Sims, poultryman, Fletcher, Ohio; Congressman William McCullough; A. R. Winter, Ohio State University, Columbus, and Dr. H. G. Geyer, Ohio Department of Agriculture.

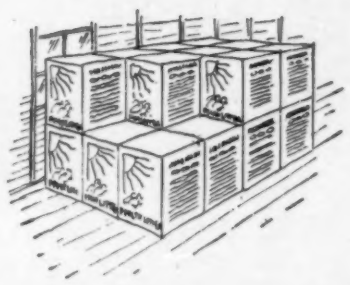
Southern Sunshine

PROCESSED PEANUT HULLS

"Nature's Perfect Poultry Litter"

ECONOMICAL...EASY TO STORE

Southern Sunshine is competitively priced and money-saving from a labor standpoint. It comes in 20" x 20" x 24" corrugated cartons that are easy to handle and stack. Each carton, packed by special compressor equipment, contains enough litter for 120 sq. ft. of floor space.



SPREADS EASILY

Southern Sunshine pours easily, expanding into a huge pile for fast spreading. No lumps to break up . . . no roots or vines . . . nothing but clean peanut hulls. When litter is spent, its light weight makes it easy to remove with a shovel.

ANDERSON IS YOUR ONE-STOP HEADQUARTERS FOR POULTRY SUPPLIES & EQUIPMENT

ORDER NOW!

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INDIANAPOLIS, INDIANA

Phone ME 9-2411

Report 1 Million Head Fed Liquid Supplement

NEW YORK—More than one million ruminant animals are estimated to have been fed on Morea liquid supplement programs in 1959, according to a report from U.S. Industrial Chemicals Co. of New York.

Morea, a patented product of Feed Service Corp., Crete, Neb., is now being marketed through local mixer-distributors by this firm in the Midwest and by U.S.I. in states primarily west of the Continental Divide and east of the Mississippi River. The liquid premix supplied by these firms is formulated with molasses by the mixer-distributors.

U.S.I. officials said the "basic principle" of the liquid supplement is that it speeds up rumen fermentation. Ingredients in addition to molasses are urea, ethanol, phosphoric acid and trace minerals. The company also quoted a number of feeders and packers as reporting a preference for beef fed the supplement.

Six 4-H'ers Win $400 Moorman Scholarships

CHICAGO—Six winners in the National 4-H Swine Awards Program were announced at the 38th National 4-H Club Congress here. Each winner received a $400 college scholarship from Moorman Manufacturing Co., Quincy, Ill. The Cooperative Extension Service supervises the program.

The six winners are as follows: Bruce Moos, Lodi, Cal.; Larry W. Linville, Shelbyville, Ind.; Wallace W. Wolf, Jr., South Haven, Kansas; Byron L. Grossnickle, Union Bridge, Md.; Stuart G. Denman, Charleston, Miss., and David Semrad, Hunter, Okla.

The Moorman company was host to state and national winners in a recognition breakfast Dec. 2 in the Congress Hotel.

DIRECTORS ELECTED

FOREST, MISS.—Two new directors were elected to the board of the Forest Packing Co., Inc., at the annual stockholders meeting recently. They are H. E. Bishop and Al Harrison. Seven directors reelected were: Cooter Hawkins, Marvin Durham, C. J. Lackey, Dr. E. C. Walsh, J. R. McCravey, Hugh Haralson and C. P. Gray.

Harry M. Dunn, Jr., Named to Miller Staff

MINNEAPOLIS—Harry M. Dunn, Jr., has been named circulation fulfillment manager for Feedstuffs and seven other Miller Publishing Co. business publications, Milton B. Kihlstrum, president, announced.

H. M. Dunn, Jr.

Mr. Dunn was formerly clerical services manager in the circulation fulfillment department for Meredith Publishing Co., publisher of Successful Farming, in Des Moines, Iowa. Earlier assignments at Meredith included supervisor of promotion mailing department and book production manager.

Mr. Dunn is a native of Grinnell, Iowa, and a graduate of Drake University.

IOWA FEED MILL OPENS

FORT DODGE, IOWA—Stromberg's new feed mill held its grand opening recently with tours through the mill and hatchery to show the new building and installation. The mill will be available for custom grinding and feed mixing for farmers and also will offer bulk feed service. The firm is a Ralston Purina Co. dealer.

JOHN F. YOUNG COMPANY

3270 Southside

Cincinnati 4, Ohio

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We Are Distributors of Distillation Products Industries'

Myvamix

Can you squeeze **vitamin A** without squelching it?

When you pellet fortified feed, the heat softens the beads that carry vitamin A. Pressure crowds them into intimate contact with destructive oxygen and minerals. The vitamin A potency drops off twice as fast in pellets as in unpelleted mash.

The ratio of pelleted to unpelleted stability holds true even for our *PGB-250 Dry Vitamin A*.

But *PGB-250* leads the pack on stability, both with and without pelleting. A week to 10 days after pelleting by six different mills, it has averaged 92% vitamin A recovery from feeds in our tests. After three months at 100°F and 58% relative humidity,* *PGB-250* was still far out front.

PGB-250 gives this performance because of the way it is built from plasticized gelatin, approved antioxidants, and inherently stable vitamin A palmitate. When it is said that man-made vitamin A was introduced on the market over 10 years ago, "man" refers to the same men who are making *PGB-250* now. They have had time to learn how to do a good job.

PGB-250 delivers 250,000 U.S.P. units of vitamin A per gram of tiny spheres in just the right size distribution for uniform dispersal in your mix. The same beads, diluted with soybean feed to potencies of 10,000, 20,000, or 30,000 units per gram, are available as *PGB-10*, *PGB-20*, and *PGB-30*. For samples and quotations write ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York and Chicago • Charles Albert Smith Limited, Montreal and Toronto.

*When it's really 100°F, the relative humidity is very rarely as high as 58%. Check with your local weatherman if you don't believe that.

leaders in research and production of vitamins A and E

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Also . . . distilled monoglycerides . . . some 3700 Eastman Organic Chemicals for science and industry

Distillation Products Industries *is a division of* **Eastman Kodak Company**

Nutrena Reorganizes to Meet Changes in Animal Agriculture, Firm's Growth

Changes in animal agriculture have been bringing increased feed industry awareness of the necessity to make changes and adjustments in organization and systems of operation.

Recognizing that changes are necessary, how does a particular feed company go about making them and what are the results?

Last March, one of the nation's major feed firms — Nutrena Feeds, Minneapolis—began a broad, company-wide reorganization. Today, nine months later, the reorganization is pronounced a "wise and successful move."

James C. North, Nutrena president, attributed the need for reorganization to changes in animal agriculture and rapid company growth.

"Our former organization," he said, "was production-oriented with a self-sufficient division built around each mill. But as Nutrena's business increased almost 15-fold in the last 20 years, we literally outgrew the divisional set-up. The new organization is keyed to markets, feeders and dealers."

In the change, 11 divisions were reshaped into four specialized functions—marketing, production, administration and purchasing. The 24-state sales area was split into regions — north, central, southwest and southeast, with headquarters in Minneapolis, Peoria, Kansas City and Memphis—with five functional managers assigned to each region. Regions were subdivided into branches.

At the farmer level Nutrena bolstered field staffs by adding college trained specialists in key production areas.

Handled at Operating Level

"Under the new setup," Mr. North said, "much of the operational planning and decision making formerly done by the general office can now be handled at the operating level. This has reduced time-consuming correspondence and has placed substantially greater responsibility in the hands of our field people."

Much of the technique, Mr. North explained, was gained from first-hand experiences of others in Cargill, Inc., Nutrena's parent company, whose grain and vegetable oil divisions accomplished similar reorganizations.

He said the change "vastly increased growth potential and has contributed to several major accomplishments the past year." These include:

- An all-time crop year sales record, 23.8% over the previous record year.
- Completion of a new feed mill in Lennox, S.D.
- Construction of major bulk feed stations in Coffeyville, Kansas; Rome, Ga., and Oklahoma City.
- Expansion of the Cargill-Nutrena research farm at Elk River, Minn.
- Development of new production and handling systems for swine, chickens and dairy calves.

"Only the future will confirm the wisdom of our move, but already we can see improved customer service, greater administrative efficiency, and a stronger, more effective marketing function," Mr. North said.

TOP EXECUTIVES—Policy sessions bring together Nutrena Feeds' top executives. Here President James C. North (seated right) meets with, left to right, Larry O. Hauskins, vice president and purchasing director; Lloyd M. Smith, treasurer and administrative director; E. C. Fuller, executive vice president and marketing director, and D. V. McDonald, vice president and production director.

ADMINISTRATIVE ACTION—This four-man administrative group includes, left to right: Waldo L. Hull, credit and finance; Raymond G. Kingery, accounting; Lloyd M. Smith, treasurer and administrative director, and David R. Ross, vice president and administrative manager. Mr. Smith calls the department a "bridge" between marketing, production and purchasing.

MARKETING—This quintet makes Nutrena's marketing plans. Pictured, left to right, are: Clarence L. Whitworth, plans and programs manager; Ralph V. Grier, general sales manager; E. C. Fuller, marketing director; Robert H. Mason, products and services manager, and Frank P. Berry, advertising and sales promotion manager. In addition to sales, the group oversees research and development, formulation, quality and margin controls and is responsible for fulfilling operating budgets.

NORTHERN REGION — Minneapolis meeting brings together Nutrena's northern region managers for strategy session. Comparing notes are, left to right: J. D. Armstrong, administration; Warren Engelland, sales; Chad Hoyme, accounting; M. M. Noxon, production, and Ralph Latchaw, credit and finance. Their region includes Wisconsin, Minnesota, North and South Dakota, Nebraska and western Iowa.

MARKETING — "With reorganization Nutrena broadened its marketing operation substantially to include formulation, quality and margin controls and the responsibility for meeting gross dollar budgets," said E. C. Fuller, executive vice president and marketing director. "As a result our staff is far more sensitive to delicate changes in feeding ratios, competitive pressures and profit opportunities."

"The new organization eliminated some major communications problems," Mr. Fuller said. "Formerly sales managers reported to division heads rather than to the general sales manager. Plans and strategy filtered down through several levels and final action was sometimes slow and poorly coordinated. Now we're set up in straight lines, top to bottom, and information flows far better in both directions."

Reorganization has also made possible cross-functional coordination, gearing production, purchasing and administration to customer-oriented changes in products and services, he said.

Physically the change created several new posts and realigned marketing into four departments, including:

Plans and programs, directed by Clarence L. Whitworth, supervising development of new and improved products and management systems. The group includes seven product managers and various project specialists who work closely with Cargill's central research department and the Elk River research farm staff;

Products and services, headed by Robert H. Mason, supervises formula

CENTRAL REGION—Peoria parley finds Nutrena's central region managers conferring on activities in Indiana, Illinois and eastern Missouri and Iowa. Left to right are Earl J. Raff, sales; Vern C. Dean, administration; Eugene L. Griggs, credit; Glenn E. Turner, accounting, and W. J. Cain, production.

SOUTHWESTERN REGION—Managers convening in Kansas City to coordinate activities in Kansas, Oklahoma, Texas, New Mexico, Colorado and parts of Missouri and Arkansas are, left to right: R. E. Whitworth, Jr., sales; Arthur Sandvig, credit and finance; R. S. Greenlee, administration; J. E. Branch, production, and Donald Larson, accounting.

and quality controls, margins, pricing, packaging, warehousing and distribution. The group also uses a unique electronic computation system to calculate daily formulas for each mill on the basis of current ingredient prices;

Advertising and sales promotion, directed by Frank P. Berry, plans and produces consumer and dealer advertising, sales promotion and technical bulletins;

General sales department, managed by Ralph V. Grier, directs the field organization of four regions, subdivided into 18 districts, each with a sales manager and from 8 to 12 territory managers and technical specialists.

"The first three departments supply plans, programs and tools, enabling the general sales department and sales managers to devote their entire attention to customers and prospects," Mr. Fuller said.

"Our department has a great advantage in its youth," he added. "With an average age of 37 in the marketing staff and 38 in regional managers this organization has many years in which to work and grow."

One key reorganization phase was introduction of a communications system which encourages and speeds customer needs from the field through staff specialists to the research department, and routes new products and programs back through the marketing group to field representatives.

The change has also eliminated questions of area sales jurisdiction, for in borderline cases the customer decides from which dealer or plant he prefers to be serviced.

"Morale is excellent," Mr. Fuller said. "Our people have applauded the change, saying it gives them a better opportunity to do a more rewarding job."

ADMINISTRATION—"A newly created section, administration, is subdivided from top to bottom into credit, accounting and administrative procedures," said Lloyd M. Smith, treasurer and department director. "Those three functions—headed by Waldo Hull, Ray Kingery and David Ross, vice president, respectively, are projected through the regional offices and create a bridge

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Operates within a Single "U" Shaped Trough

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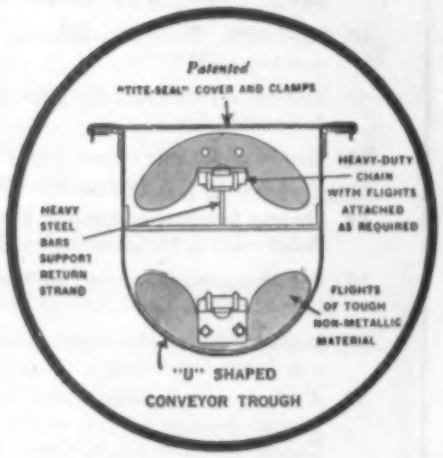
Patented
"TITE-SEAL" COVER AND CLAMPS
HEAVY-DUTY CHAIN WITH FLIGHTS ATTACHED AS REQUIRED
HEAVY STEEL BARS SUPPORT RETURN STRAND
FLIGHTS OF TOUGH NON-METALLIC MATERIAL
"U" SHAPED CONVEYOR TROUGH

Flights carry a deep load. Their shape fits the contour of the trough giving positive wiping action. A "Super-Flo" system consists of a Drive Terminal and a Take-up Terminal with any number of intermediate Sections, to create a conveyor of any length with receiving and discharge spouts located to suit your layout. Complete conveyor is enclosed in one trough. Patented "Tite-Seal" Cover and Clamps provide dust-tight construction.

Cross section above portrays the simplicity of "Super-Flo." The flights are carried by a rugged chain with attachments, all contained within a single trough. There is no sag at any point. Flights are made of a tough, smooth, non-metallic, non-breakable material and need no reinforcements. Long wearing quality is assured. Available in 6, 9, 12, 14, 16, 20 and 24-inch trough widths, in regular or heavy gauge steel or with stainless steel, Monel Metal, etc.

The demand for "Super-Flo" Conveyor since we introduced it "over a year ago" has necessitated equipping our Santa Clara, Calif., plant for full production. Prompt deliveries can also be made from our Hammond, Ind., and Winona, Mississippi, plants.

Write for Bulletin SF-659-A which gives full details

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ENGINEERS HAMMOND MANUFACTURERS
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FEEDSTUFFS reprints

The following reprints of articles which have appeared in Feedstuffs may be obtained on order from Feedstuffs' Reader Service Department:

2. **Custom Feed Milling**—a series of five articles—by Al P. Nelson, Feedstuffs special writer **50c**
3. **Mobile Feed Milling**—a series of five articles—by Al P. Nelson **50c**
26. **Feedstuffs' 1959 Analysis Table for Feed Ingredients**—by Charles H. Hubbell **20c**
34. **Processing of Soybeans for Broiler Feeding**—by Dr. E. L. Stephenson & Leland Tollett, University of Arkansas **20c**
35. **Science and Service**—a 16-page summary of AFMA Golden Year articles covering all phases of feed industry. Quantity discounts. Imprinting distributor's name for nominal additional charge **50c**
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38. **Balancing Swine Rations**—by Dr. D. E. Becker, University of Illinois **20c**
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42. **Nutritional Physiology of the Rumen: A New Approach to Rumen Nutrition**—Dr. J. C. Shaw, Formerly at University of Maryland **20c**
43. **Problems in Bulk Handling and Suggested Solutions**—J. D. Johnson, General Mills, Inc. **20c**
44. **Principles of Grain Drying**—Robert A. Saul, Agricultural Engineer, Iowa State University **20c**
45. **Effects of High Calcium in Diet**—by Dr. George K. Davis, University of Florida **20c**
46. **Feedstuffs Quarterly Indexes**, First, second and third quarters, 1959 .....each **50c**
47. **Extending Pellet Mill Die Life**—by R. L. Patterson, Procter & Gamble Co. **35c**
48. **Organic Arsenic Compounds as Feed Additives**—by Dr. M. L. Scott, Cornell University **20c**
49. **Limited Feeding vs. Limited Energy Feed for the Growing Pullet**—Dr. J. H. Quisenberry, Texas A&M **20c**
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51. **Broiler Industry Management**—Prof. Ewell P. Roy, Louisiana State University **20c**
52. **Analysis and Feeding Value Tables for Beef Cattle and Sheep**—6-page article, by Dr. S. H. Morrison, Nutrition Consultant, 25c single copy; 3-5 copies 15c ea.; 10 or more, 10c each.
53. **Grain Bank Operation**—Dr. W. S. Farris, Purdue University **20c**
54. **Cost of Producing Broiler Meat**—Dr. N. V. Helbacka, University of Maryland **20c**
55. **Feed Manufacturers—Beware of Treated Grain**—Dr. A. A. Camp, Texas Agricultural Experiment Station **20c**

FEEDSTUFFS **P.O. Box 67**
Reader Service Department **Minneapolis 40, Minn.**

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SOUTHEASTERN REGION—Memphis headquartered managers of Nutrena's southeastern region check progress in their area of North Carolina, Tennessee, Georgia, Florida, Mississippi, Alabama, Louisiana and Arkansas. Sessioning here, left to right, are Turner Whitworth, administration; Hal McGeorge, sales; John Norvell, credit; Powell Gaines, production, and Allen Bates, accounting.

between marketing, production and purchasing."

Located at each production point within a region are branch offices which coordinate local buying, customer service and administration, Mr. Smith said.

Credit has been concentrated into a vertical operation with most decisions made at the regional level. "Financing has become a vital function," Mr. Smith said, "for money is in short supply. We are aiming our efforts toward top-efficiency producers with demonstrated business ability, encourage local financing and work closely with customers to help locate money sources."

The department also handles training, supervising an intensive on-the-job indoctrination for new employees in all company operations, Mr. Smith said.

PRODUCTION AND PURCHASING—"The change-over hasn't affected our operation as much as some others," said D. V. McDonald, Nutrena vice president in charge of production.

"We have appointed regional managers and have shortened communication lines, giving plant managers faster access to their supervisors," he said. "In the future the new program will be increasingly helpful, for as new plants are built it will enable us to extend our organization easily and simply to include new production staffs."

The change has helped establish company-wide operating standards, he added, and has increased the interchange of ideas and problem-solving methods.

In purchasing, Larry O. Hauskins, vice president, said, "Branch managers closest to area situations are buying ever increasing amounts of local grains, animal proteins, alfalfa meal and other ingredients. Reorganization has simplified turning the job over to them."

The change has also helped coordinate grain, linseed and soybean oil meal and other ingredient buying, Mr. Hauskins added. Most other purchasing is handled in Minneapolis and through regional purchasing offices.

Dr. Salsbury's Holds Annual Sales Meeting

MASON CITY, IOWA—Some 80 territory managers, the home office marketing staff and research workers got together for a three-day session here at the yearly sales meeting of Dr. Salsbury's Laboratories of Charles City, Iowa.

Included on the program were sales workshops, current research information and a discussion of the advertising program and other marketing plans for 1960.

Taking part in the program were James M. Keith, merchandising services manager; Tom Freeze, general sales manager; John C. Doolittle, market research manager; H. G. Bos, director of marketing; Dr. John G. Salsbury, vice president and general manager; P. S. Wright, package product manager; Donald E. Dexheimer, feed additive product manager; W. James Orem, education supervisor, and M. A. Randoll, Bloomington, Ill., Biddle Advertising Agency.

Willasson Firm Named Taste Representative

CHICAGO—The appointment of R. D. Willasson Sales Co., Omaha, as a representative for the complete line of Taste/Flavor, enzymes and silage preservative materials, was announced by Edward F. Hartman, vice president in charge of sales, Taste Engineering, Inc.

Before establishing his own organization in August, 1959, Mr. Willasson was associated with Merchants Chemical Co., Omaha, and later became vice president of W. P. Mann Sales Co., Omaha.

Besides handling the complete line of products of Taste's agricultural division, Mr. Willasson offers vitamins, antibiotics and vegetable oils.

Dura-Buket Distributor

EAST ST. LOUIS, ILL.—National Oats Co., Dura-Buket division, has announced the appointment of Kreiter Industrial Supply, Inc., as a Dura-Buket distributor for the Houston, Texas area.

In the Pacific Coast states Frank Wenter represents The Miller Publishing Company. Frank's long experience as a business executive eminently qualifies him as a sound adviser in sales and marketing.

When you're interested in exploring opportunities in the agricultural industries area, call Frank at Granite 7-6850 or write him at Suite 9A, 11681 San Vicente Blvd. in Los Angeles.

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CONTENTS

Distillers Dried Solubles		Distillers Dried Grains	
Protein	24-30%	Protein	21-28%
Fats	5%	Fats	9-11%
Mineral	6%	T.D.N.	80-85%
T.D.N.	85%	Fibre	12-14%
B Complex Vitamins		B Complex Vitamins	
Growth Factors		Growth Factors	

Feed registration time is here again! This year be sure that your feed tags include Distillers Dried Grains and Dried Solubles. More and more feed mixers are learning that Distillers Dried Grains and Dried Solubles supply the important natural B-vitamins, proteins, minerals, and other growth factors, which produce real feed power.

'60 will be a normal production year, but to insure your supply, contact your favorite source soon.

DISTILLERS
Feed Research
COUNCIL

James B. Beam Distilling Co., 10 East South Water St., Chicago 1, Ill. ☆ Brown-Forman Distillers Corp., P. O. Box 1080, Louisville, Ky. ☆ Double Springs Distillery, Inc., 70 Scollay Square, Boston 8, Mass. ☆ Fleischmann Distilling Corp., 625 Madison Ave., New York 22, N. Y. ☆ Glenmore Distilleries Co., P. O. Box 930, Louisville, Ky. ☆ Grain Processing Corp., 1400 Oregon St., Muscatine, Iowa ☆ Kentucky River Distillery, Inc., Brook & Eastern Parkway, Louisville 8, Ky. ☆ McGinley Milling Co., P. O. Box 548, Owensboro, Ky. ☆ Barton Distilling Co., Fordstown, Ky. ☆ Merchants Distilling Corp., 1 North La Salle St., Chicago, Ill. ☆ Midwest Solvents Co., Inc., 1300 Main St., Atchison, Kansas ☆ Mt. Boston Distiller, Inc., 1010 Massachusetts Ave., Boston 18, Mass. ☆ National Distillers Products Co., Grain Products Sales, 99 Park Ave., New York 16, N. Y. ☆ Schenley Distillers, Inc., 26 E. Sixth St., Cincinnati 2, Ohio ☆ Joseph E. Seagram & Sons, Inc., Grain Products Division, 375 Park Avenue, New York 22, N. Y. ☆ Stitzel-Weller Distillery, Inc., Sta. B, Louisville, Ky. ☆ Hiram Walker & Sons, Inc., Peoria 1, Ill.

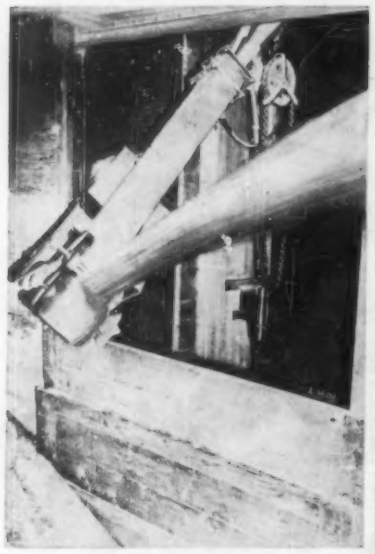
WORTH LOOKING INTO

NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7749—Box Car Loader

The "Swiveloader," designed to fill and trim the largest box cars quickly while eliminating dust for the operator, has been announced by Stephens-Adamson Manufacturing Co. The unit mounts to wall or structural supports. No loading platform or gang plank is required. The operator swings the unit inside the box car door and without entering, he can swivel the thrower and direct stream of material toward one end of the car. The operator is free to attend to other tasks until one end of the car is filled, then he swivels the unit around and directs the stream to the other end without stopping the feed of material. It operates on a centrifugal action throwing principle. The standard unit is available in a 10 in. wide belt size. The "Hi-Type" unit is designed to be swung over three 20 in. high grain doors. It is available in 10 in. and 26 in. wide belt sizes. Check No. 7749 on the coupon and mail for details.

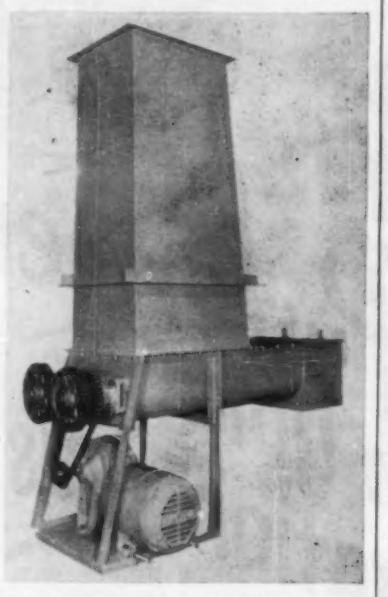


No. 7750—Brochure on Automation

A new brochure, No. 1159, recently released by Prater Pulverizer Co. stresses time and motion savings through automation. The illustrated publication contains information about conveying of ear corn, small grain, ground feed, bulk feed and feed supplements. It is entitled "Save In and Out Mill Time." For copies of the brochure, check No. 7750 on the coupon and mail.

No. 7748—Weighing System

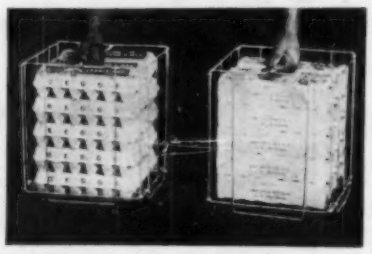
A system which evenly and regularly feeds and weighs bulky material has been announced by Richardson Scale Co. The system will handle materials measuring as little as 3 lb. per cu. ft., at up to six 10-lb. weighings per minute, the company says. In the system, material is carried from a surge bin to a transition hopper by means of a twin-screw feeder. It is then delivered to the scale hopper of a Richardson Model E-52 net weighing scale by the scale's screw feeder.



Electrical feeder controls automatically start and stop the flow of material each time the scale makes a weighing. The twin-screw feeder consists of three major components: a bell-shape hopper; twin 9 in. by 3 ft., 6 in. center screw feeders (which operate as a single unit) and a small transition hopper. The twin screws, driven by a 5 h.p. gearhead motor, are mounted in a shallow trough below and at right angles to the hopper. For more information, check No. 7748 on the coupon and mail.

No. 7746—Wire Egg Baskets

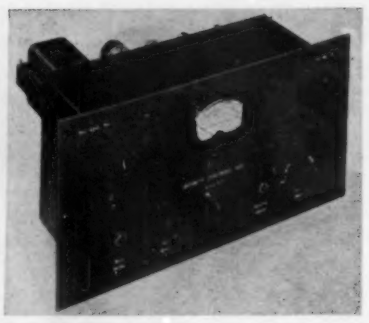
Tobias Enterprises announces a line of collapsible wire baskets, designed to cut cost of retailing eggs. According to company literature, there is no need for rehandling of each carton and the basket saves egg breakage.



Fifteen dozen cartons remain in the basket from the producer to the consumer. They fold flat for returning or storage. The baskets interlock for display or trucking. A leasing plan has been worked out by the company. For more information, check No. 7746 on the coupon and mail.

No. 7747—Electronic Sensing Control

Security Controls, Inc., announces a redesigned electronic sensing control that recognizes metallic and nonmetallic objects, without physical contact, as they enter a capacity field. Designated as Model 400, it is recommended where switches are impracticable. It consists of a sensing element connected by coaxial cable to the electronic control, and can be set up to any given constant at a given time interval. The control is available in chassis form for panel mounting



or in a key-locked, shock-mounted and gasketed cabinet. The unit recognizes errors or deviations from the constant and indicates whether the sensed objects are too large or too small, and too far or too near to a predetermined position or setting. Detection is expressed by stopping the machine, actuating a rejecting or correcting device or by signaling for action by an attendant, whatever the user wants, the company says. More details can be secured by checking No. 7747 on the coupon and mailing.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 7721—Bulk hog feeder, Pannier Bulk Feeder, Inc.

No. 7722—Hog farrowing stall, Mahaska Industries, Inc.

No. 7723 — Spot removal unit, George A. Rolfes Co.

No. 7724—Counter bulletin, Richardson Scale Co.

No. 7725—Window literature, Libbey-Owens-Ford Glass Co.

No. 7726—32 ton storage bin, Leach Manufacturing Co.

No. 7727—Poultry warmer, Specifide, Inc.

No. 7728—Silage preservative, Northern Biochemical Corp.

No. 7729—New drier, Finco, Inc.

No. 7730—Bulletin on switches, Stephens-Adamson Manufacturing Co.

No. 7731—Vibration inducer catalog, Martin Engineering Works.

No. 7732—Mental ability test, Aptitests.

No. 7733—Hopper brochure, Roura Iron Works, Inc.

No. 7734—Vitamin K premix, Heterochemical Corporation.

No. 7735—Material handling pal-

Send me information on the items marked:

☐ No. 7746—Wire Egg Baskets
☐ No. 7747—Electronic Sensing Control
☐ No. 7748—Weighing System
☐ No. 7749—Boxcar Loader
☐ No. 7750—Brochure on Automation

(PLEASE PRINT OR TYPE)

Others (list numbers) .....

NAME .....

COMPANY .....

ADDRESS .....

——— CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL ———

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Handle the line of baler twine that comes direct to you from the one and only spinning mill in the fiber-producing country, offered to you through the sole U.S. and Canadian selling agents; AAA-1 rated, established 34 years.

This is highest-grade, 330 lb., knotless, treated, sisalana baler twine! **Exclusive territories** presently available. Contact R. E. Odell.

VAN WATERS & ROGERS, INC.
4000 First Ave. S. MA 4-5050
SEATTLE 4, WASH.

let, Rapid Design Service, Inc.

No. 7736—Calf creep feeder, H. D. Hudson Manufacturing Co.

No. 7737—Bulk Trailer Line, Fuller Co.

No. 7738—Poultry equipment, Poultry Equipment Sales Corp.

No. 7739—Bulk storage information, Leach Manufacturing Co.

No. 7740—Automatic bag hanger, Union Bag-Camp Paper Corp.

No. 7741—Pre-cut steel structure, Thoro-Speed Co.

No. 7742—Proportioning pump, B-I-F Industries, Inc.

No. 7743—Laboratory services brochure, Harris Laboratories, Inc.

No. 7744—Conveying pump, Fuller Co.

No. 7745—New package size, Hess & Clark.

Langston Bag Names General Manager

MEMPHIS, TENN.—T. Raymond Berry, textile bag manufacturing executive, has been appointed general manager, Langston Bag Co., Memphis, according to F. B. (Rudy) Langston, president.

T. R. Berry

For several years Mr. Berry was chief executive of Fulton Cotton Mills' Dallas bag factory. In 1957, he was promoted to general manager of the company's Atlanta textile and canvas operations. When the company closed its bag plant, Mr. Berry was selected to administer its laminating operations.

During the past 20 years, except for his army service, Mr. Berry has been identified with manufacturing, sales and the executive departments of textile bag production.

He attended Southern Methodist University and has been active in trade association work, having served on several committees of the Textile Bag Manufacturers Assn. and other allied trade organizations.

Continental Conveyor Formed in Alabama

BIRMINGHAM, ALA.—Continental Conveyor & Equipment Co., a new corporation composed principally of personnel of the parent organization, has completed purchase of the industrial division of Continental Gin Co., Birmingham. While currently operating from the original base, future plans include construction of and removal to a new site in Winfield, Ala., 80 miles north of Birmingham.

Heading the new corporation are Nelson J. Kemp, chairman, George R. Maples, Jr., president, and Raymond C. Kirkpatrick, vice president and treasurer. Mr. Maples has been general manager of the industrial division of the gin company for some time, while Mr. Kemp was vice president and finance director, and Mr. Kirkpatrick was comptroller of the parent company.

The purchase includes a substantial part of the machine tools and other facilities for production as well as current inventory and other assets. Most of the engineering and sales personnel will be incorporated in the organization, and the new management emphasizes that change in ownership and corporate name will not affect company policies or products. The brand name "Continental" will be retained and complete conveyor service will continue to be offered, along with replacement and repair service on existing installations.

Poultry Study Grants

BERKELEY, CAL.—Two grants for poultry studies have been given the division of agricultural sciences of the University of California.

Dr. Salsbury's Laboratories gave $3,000 for research on the significance of isolating Newcastle disease virus from aqueous humor of chickens. Another donation of $4,500 was made by the Hy-Line Poultry Farms for research on the water metabolism of poultry.

SUNSET FEED & GRAIN CO., INC.

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INQUIRIES APPRECIATED

Strong Scott

"Strong-Scott Equipment . . .

HAS BEEN A BIG FACTOR IN OUR BECOMING ONE OF THE LARGEST CO-OPS IN WISCONSIN"

Says Carl Woizeski, General Manager of Larsen Co-operative Co., Larsen, Wisconsin.

Carl Woizeski, above, manages the Larsen Co-operative Co. and employs eight men in the feed department.

Three Strong-Scott Triple Action Mixers are mounted overhead. A screw conveyor carries material out for bulk discharge into trucks.

The Strong-Scott Quick-Change Hammermill is the answer to the grinding needs at Larsen.

"We are presently operating four Strong-Scott Triple Action Mixers, a 5-ton, two 2-ton and a 1-ton, plus one molasses mixer," says Carl. "These do a good job of mixing and I guess the fact that our customers are well satisfied bears this out.

"We can run 12 ton an hour in our Strong-Scott Molasses Mixer and get excellent results. Maintenance on our Strong-Scott equipment is almost nil. In the one year we have had our Strong-Scott Hammermill, we have never had to change a screen. They are wonderful," concluded Carl. The contractor at Larsen, recently completing the newest addition, was A. Winterfeldt.

EQUIPMENT DESIGNED FOR BETTER PROCESSING

The Strong Scott Mfg. Co.
451 Taft Street N.E.
Minneapolis 13, Minnesota

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PLEASE SEND INFORMATION ON:
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Illinois Forum to Include Sessions on Feed, Farm Supplies

URBANA, ILL. — Programs designed for persons interested in the sale of feed, equipment and other farm supplies are scheduled during the University of Illinois Agricultural Industries Forum Feb. 2-3, according to Dr. R. J. Mutti and Dr. J. E. Wills, farm supplies and equipment program chairmen.

During the first part of the Feb. 2 afternoon session, discussions will center on "Preparing for the Market for Farm Supplies and Equipment." Speakers will include O. J. Scoville, head of the costs, income and efficiency branch of the Agricultural Research Service; Lavon Fife, agricultural economist, International Harvester Co., and Dr. E. R. Swanson, University of Illinois professor of agricultural economics.

During the second part of the afternoon, three separate sessions are scheduled.

One session will discuss economic considerations in locating feed mixing facilities. E. E. Reynolds, director of feed sales, McMillen Feed Mills, Fort Wayne, Ind., will speak on "The Role of the Custom Miller," Dr. Mutti will report on "Possibilities and Limitations of Mixing on the Farm," and M. D. King, Pittsfield feed manufacturer, and Russell Jeckel, Delavan farmer, will relate these presentations to their own experience.

Another session will cover economic considerations in purchasing fertilizers and seeds. Of special interest to equipment and farm building dealers will be a session on "Choosing Corn Drying and Storage Systems for a Farm."

"Overcoming Problems Encountered in Adopting Better Production Methods on Individual Farms," will be discussed Feb. 3. Panel members will include Dr. C. L. Folse, University of Illinois, rural sociologist; E. G. Fruin, Bloomington farm manager; G. E. Sears, Citizens First National Bank, Princeton, and Duane Dahnert, Waterman Electric Co., Waterman.

Those attending the farm supplies and equipment sessions will also find topics of interest on the forum general session program.

A complete program and reservation forms can be obtained from the department of agricultural economics, University of Illinois, 305 Mumford Hall. Urbana.

R. G. Shannon Joins Radson Engineering

MACON, ILL.—Growing markets and an expanding line of Radson Engineering Corp. agricultural products have resulted in the addition of R. G. Shannon to Radson's sales staff, according to company officials.

R. G. Shannon

He will work with the firm's distributors and dealers, particularly on the new agricultural two-way radio - telephone and the grain moisture meters. Mr. Shannon has held factory and dealer representative positions with Chrysler Motor Corp. and Commercial Credit Corp.

He is a native of Bloomingt[illegible] Ill., received his education at Illinois Wesleyan University and now makes his home at Decatur, Ill.

Research Grant

NEW YORK — Mississippi State University has accepted a grant from American Cyanamid Co. to evaluate methods for supplementing cattle rations with Aureomycin chlortetracycline under pasture conditions.

The work is under the direction of Dr. C. E. Lindley of the Mississippi Agricultural Experiment Station. Dr. Lindley's studies will be with cattle receiving high roughage rations supplemented with a mixture of Aureomycin and salt.

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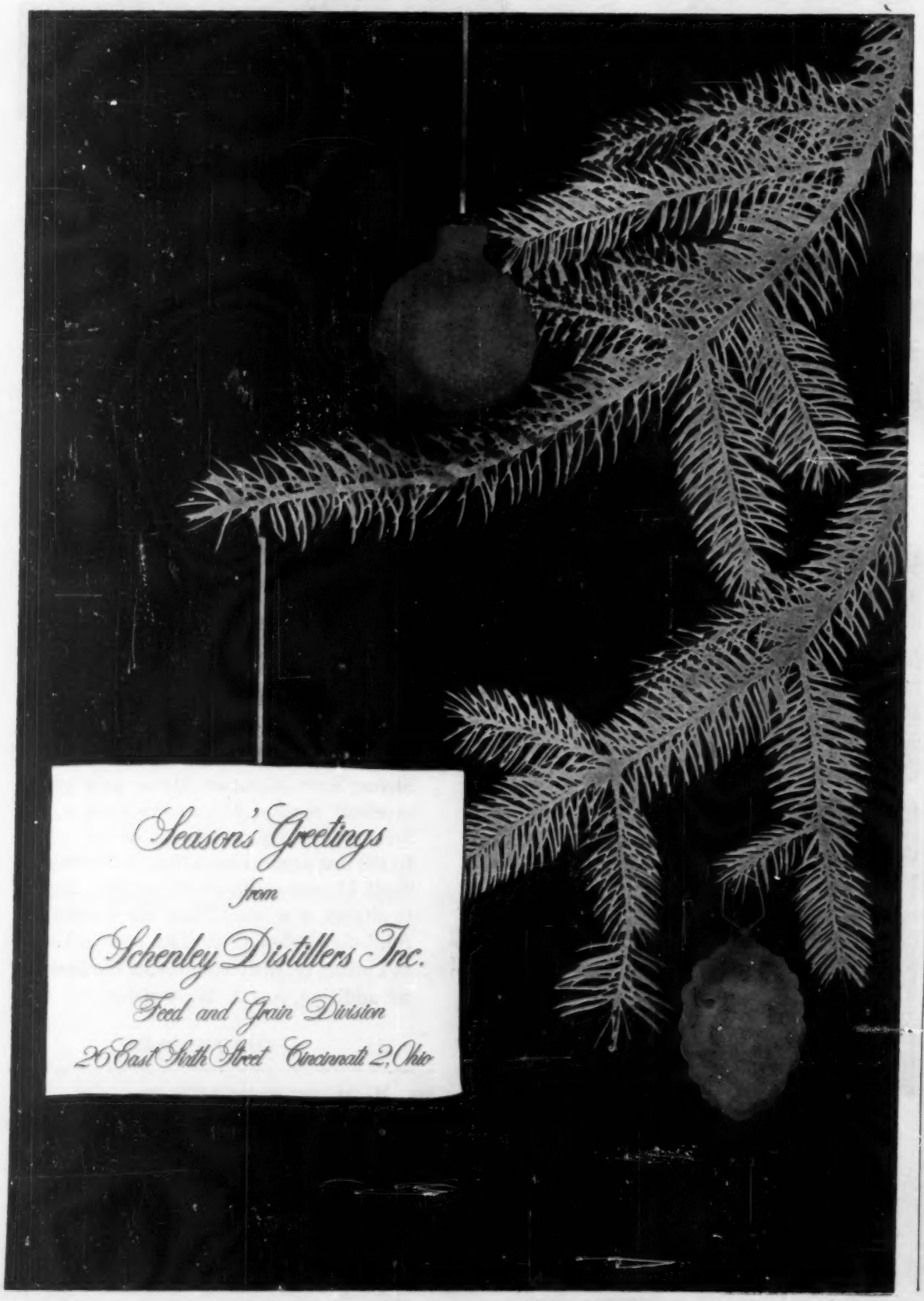

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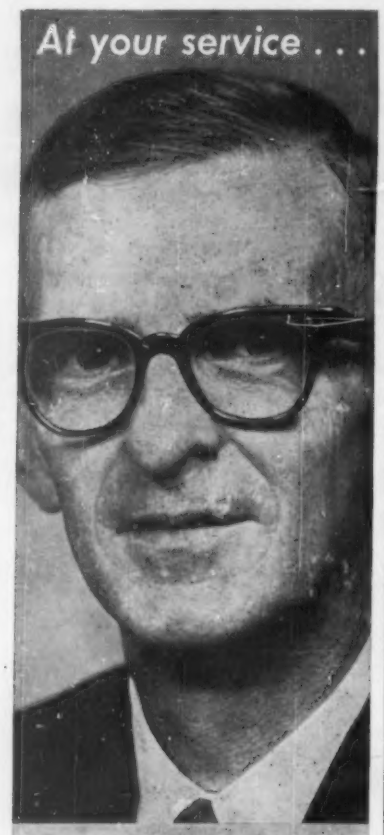

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For the Feed Manufacturer, Feed Jobber, Feed Broker and Feed Dealer

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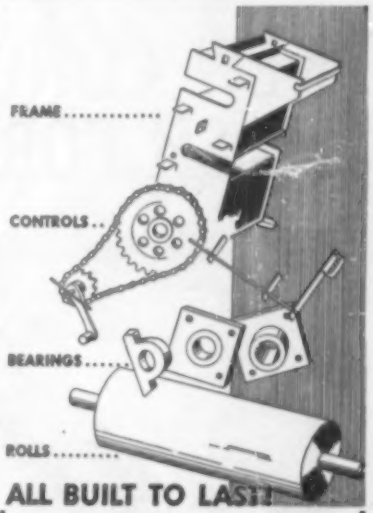

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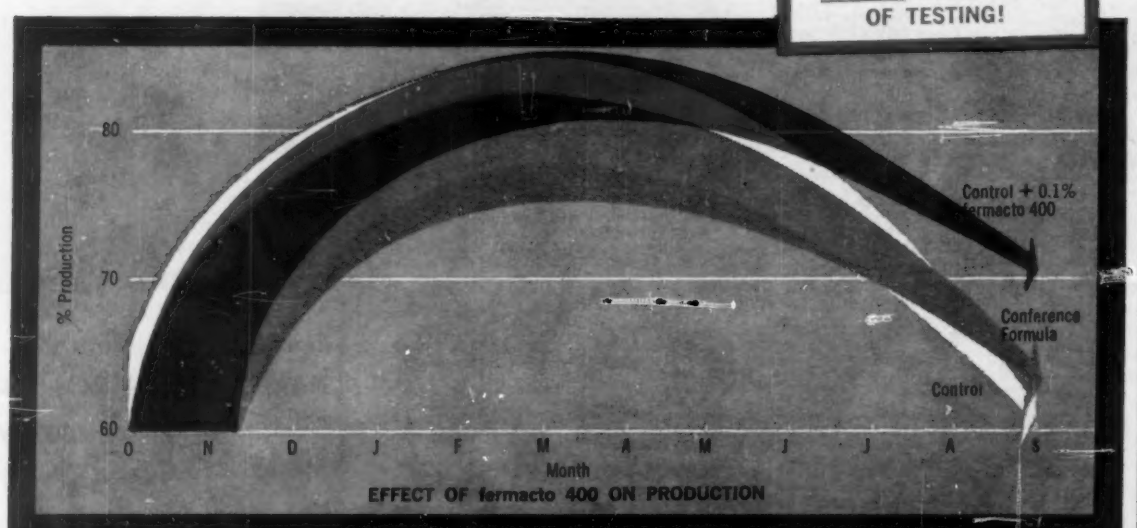

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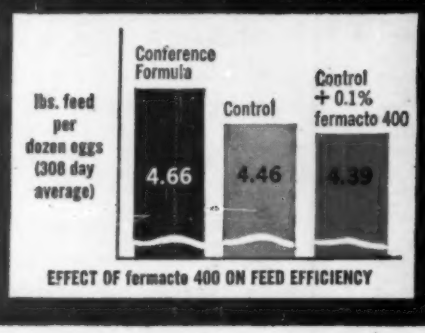

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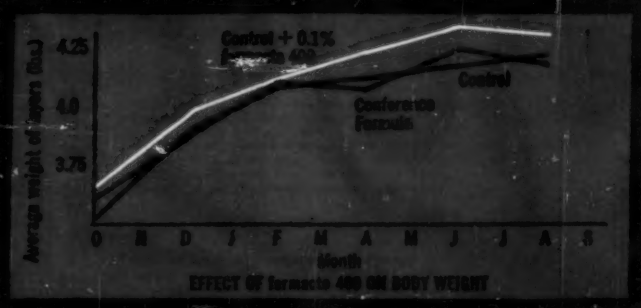

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Pillsbury Feed Division Makes 2 Appointments

CLINTON, IOWA—Two staff appointments have been made by the feed division of the Pillsbury Co.

J. Robert Cotter was appointed sales planning manager. He is a 1947 graduate of the University of Iowa, where he majored in business administration. After graduation he was appointed assistant to the manager of dormitory operations at the university and later became manager of married student housing. He joined Pillsbury in 1952 as credit and office manager in the Clinton plant. Mr. Cotter has served as pricing manager since 1956.

J. R. Stump has been promoted from assistant pricing manager to pricing manager. Mr. Stump is a 1951 graduate of North Carolina State College, where he majored in business statistics. After several years in the automobile sales business, he attended University of North Carolina for additional study in industrial management and received his master's degree.

Before joining Pillsbury, he was director of marketing for Wright Machinery division of Sperry-Rand Corp. Prior to coming to Clinton in 1959, he had experience in the sales department, being assigned to a North Carolina territory.

Uniform Temperature Aids Egg Production

IDAHO FALLS, IDAHO—Experimental work by the University of Idaho, department of poultry husbandry, shows that egg production in a poultry house with uniform temperature and in which the birds get high-energy feed was 74.5%. The feed efficiency was 4.1 lb. of feed for a dozen eggs, according to Robert Black, poultry specialist.

On the other hand, chickens in a house with irregular temperature had about 72% production. They ate 4.88 lb. of feed per dozen eggs, he said.

Similar results occurred with low-energy feed. Layers in a house with uniform temperature produced at the rate of 74.6% with feed efficiency of 4.6 lb. to a dozen eggs. Chickens in a house that was hot and cold at various times had production of 72.5% and feed efficiency of 5.1 lb.

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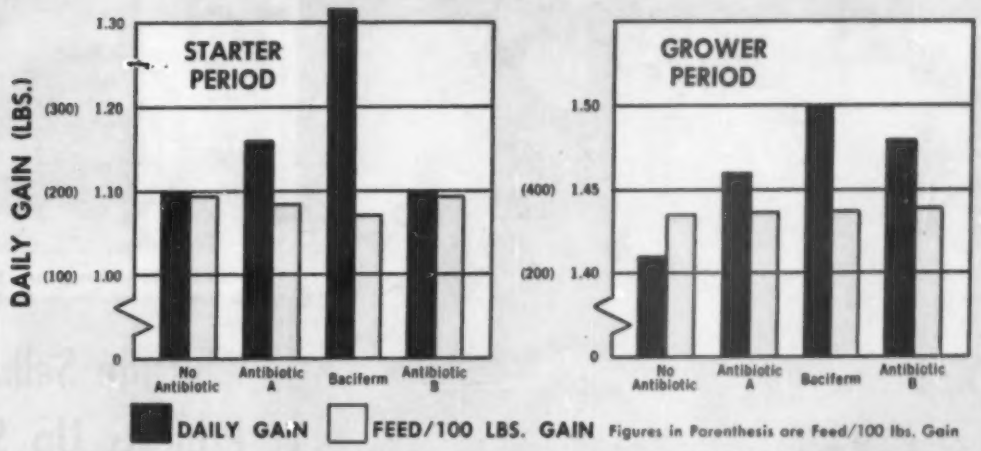

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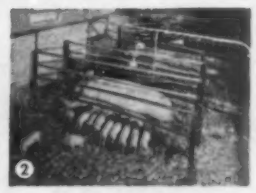

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1, 2 — Wirthmore Swine Research Unit No. 1 The farrowing and weaning unit at the Wirthmore Research Farm is designed to hold 10 sows with their litters and 60-120 weaned pigs in experimental pens. Radiant heating in the floor, removable farrowing crates and germicidal lights are some of the features of this modern unit. The development of improved rations and management practices for both the sow and litter and the weaned pig is the objective of studies conducted in this building.

3 — Wirthmore Swine Research Unit No. 2 This section houses up to 120 weaned pigs. There are twelve 6' x 9' pens, each holding from 5-10 pigs which have been transferred from the farrowing area. Copper tubing in the floor provides radiant heat. Here and in other swine facilities at the research farm, both feeding and management studies are conducted under controlled conditions. Pigs are transferred to a growing-finishing test house at 10 weeks.

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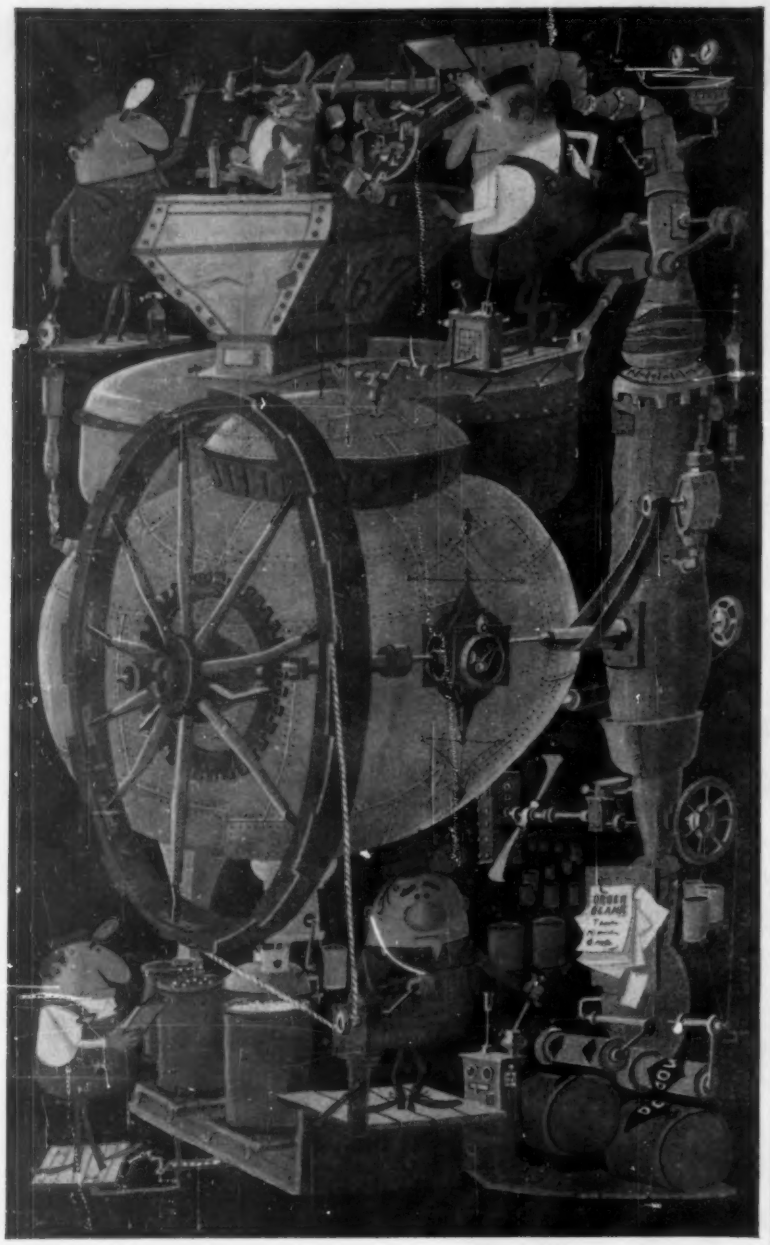

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FACILITIES—Shown are the Cole Grain Co. facilities at Muskogee, Okla. The firm manufactures feed and has a grain storage operation.

Outside Selling, Promotion of Feeder Projects Up Sales for Oklahoma Firm

By Jess Blair
Feedstuffs Special Writer

No feed milling company can afford to wait for customers to come to the office for feed nowadays. The company must promote new business, work as a management specialist and keep abreast of the latest livestock trends to hold its share of business.

This is the philosophy of Cole Grain Co., Muskogee, Okla., which J. D. Cole, owner, established back in 1939. Today the firm sells feed to dealers throughout eastern Oklahoma and also works directly with many large feeders. It employs about 30 persons, owns a fleet of trucks and has a modern laboratory.

"We have no permanent customers," says Harold Featherston, sales manager, "because this is a wide open business. Only by helping a feeder a bit more than the next feed mill is it possible for us to hold his business year after year."

The mill makes poultry, hog and dairy feeds, does custom grinding and mixing, and also stores grain for the government.

Equipment

Some of the equipment consists of four Kelly mixers, two Williams hammermills and one Jay Bee hammermill and two Sprout-Waldron pellet mills. It also has a continuous belt conveyor for taking sacked feed from the mills through a partition where the sacks are stored.

The firm also owns three alfalfa dehydrators, with each unit capable of processing 25 tons per day.

"This is a good size firm," said Mr. Featherston, "yet we have a selling job just as hard, or perhaps more so, than that of a small mill because we must maintain a high volume every week."

CONVEYOR BELT—Sacked feed is mixed and sacked in one large room, and then is sent through a wall on conveyor belt to storage room.

Dealer System

Cole Grain Co. prefers the dealer system when feasible, officials said.

"These fellows know the customers and conditions much better than we can 100 miles away," said the sales manager. "We do give them a lot of help, though. Much of my time is spent visiting with them and working up feeder projects."

On these visits with feeders, Mr. Featherston points out the advantage in feeding scientifically, saving labor by adding bulk facilities and other points of good management.

LABORATORY—This laboratory at Cole Grain Co. is an asset in testing feeds manufactured by the company.

However, he can't oversee all the territory, so he now has three outside salesmen. To keep them posted on conditions, he calls a sales meeting once a week. He takes many news letters on nutrition, markets and business conditions. They are discussed in detail so that each man will be able to answer any questions the customers ask.

"We particularly stress the markets," said Mr. Featherston. "Each salesman must know how much hogs, feeder cattle or fat calves are selling for because a lot of farmers ask about it. To hazard a guess on some particular market and miss it a cent puts us in a bad light. Our men not only must sell, but they should also be able to help with management problems."

The salesmen are also briefed on

WONDERWALL™
cuts bag breakage for Godchaux Sugar

Another major concern, The National Sugar Refining Company's Reserve Division, producers of Godchaux brand sugar at Reserve, La., is now achieving substantial reduction in breakage with WONDERWALL bags.

WONDERWALL, developed by West Virginia, is the remarkable multiwall bag made with the new Kraftsman Clupak* paper. This paper's patented, built-in "stretch" gives it far greater toughness than ordinary kraft.

Mr. Sedgwick Howard, Division General Manager of National Sugar, states:

"Bag bre[illegible]e has been cut by 51.8% in a series of shipments [illegible]ore than 600 cars. The addition of an asphalt laminate sheet in our WONDERWALL bag has greatly reduced sugar hardening."

The extra toughness of WONDERWALL really pays off —and it doesn't cost you a cent more; in many cases it actually *reduces bag expense.*

See how WONDERWALLS can cut your bag breakage, and very possibly also reduce your bag cost. Just write Multiwall Bag Division, West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, N. Y., or 1400 Annunciation Street, New Orleans 13, La.

**Clupak Inc.'s trademark for extensible paper manufactured under its authority.*

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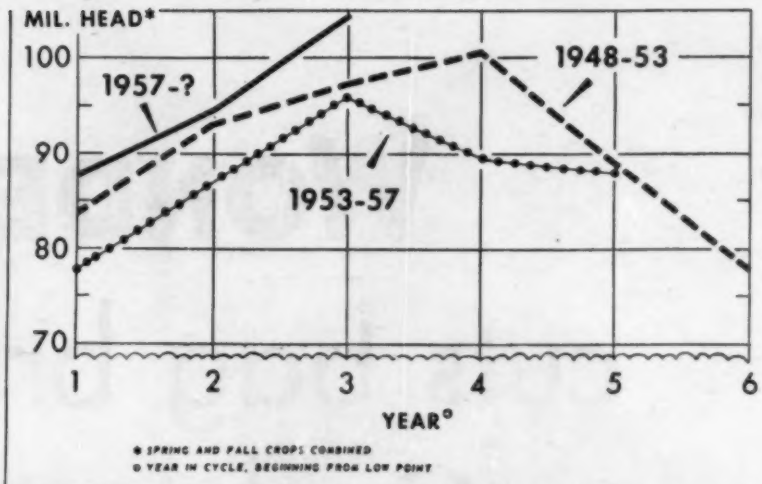

HOG CYCLE—Pig production—in its third cycle of the postwar period—began to rise in 1958 and this year's crop is the largest on record for peacetime. However, the U.S. Department of Agriculture reports that farrowing intentions from 10 leading hog states indicate the increase is slowing down and may end in 1960. During most of the new year, however, both prices and slaughter are likely to be around this year's levels.

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...the quality engineered California Pellet Mill that's ideally suited for small capacity plants. A real profit builder long proved in service everywhere.

This is just one of California's complete line of pellet mills. Other models with capacities from 1 to 15 tons per hour. Write for complete information, or ask for your CPM representative to call.

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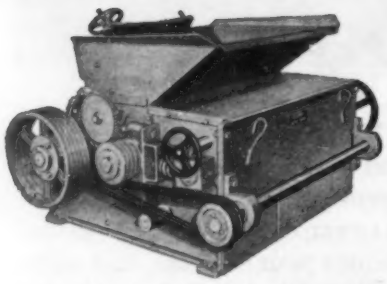

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QUALITY?
PRICE?

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Any way you look at it, W-W has the finest roller mill built. It crimps, or cracks, or crumbles every kernel of grain with a minimum of fines. It has precision control wheels, instead of levers. Rolls never clash when running empty. Special 10" diameter chilled, cast alloy rolls are hardened through entire wall, can easily be regrooved time and again — comes in 6" sections, a convenient roller exchange regrooving service is available at low cost. Framework is of heavy cast iron (instead of boiler plate). Sizes available from 6" to 36" width — adaptable to any source of power. See W-W, compare it... you'll buy it.

Write for free literature and prices on W-W Roller Mills.
Ask about liberal terms and time-payment plan.

W-W GRINDER CORP. DEPT. 311 2957 NORTH MARKET WICHITA 4, KANSAS

all new products. They must know exactly what is in a feeding supplement. This information is passed on to dealers by Mr. Featherston and his crew of salesmen.

Another requirement of every salesman on the staff is that he must be able to sell himself to farmers and dealers. Mr. Featherston said he picks young men with good personalities and who are also well grounded in farming and nutrition. Each one works on a salary and commission.

The company also prints a magazine called the Cole Farm Journal. It contains management tips on feeding and livestock, household hints and news about customers. At present the company is sending 1,500 copies monthly to customers and retail dealers.

Laboratory

"We have gradually built up a nice laboratory," said Mr. Featherston. "We test all ingredients and feeds."

Though feed sales cover every phase of livestock and poultry operation, most of it is fed to cattle. Under this category, about 60% is for beef cattle and 40% for dairy cows.

"We've possibly been pushing beef cattle more than any other livestock," Mr. Featherston stated. "Farmers have a good pasture potential here. They can put their cattle in domestic pastures until ready for the feed lots. They can also grow part of the grain."

This selling point has gone over well, and beef cattle numbers have increased steadily.

Contract Feeding

"Now here is something we're facing in this area at present," said the sales manager, "and that is contract feeding. Some farmers and ranchers are ready for it. They don't have the finances to feed as many cattle as they need, and they would also like closer supervision on feeding and management problems."

Mr. Featherston and the company officials are now making a study of contract feeding. In fact, one feeder has already proposed that he furnish 1,500 feeder calves and the mill furnish the feed on a cooperative plan.

While not eager to enter into contract feeding on a large scale, Mr. Featherston realizes this form of integration is coming. If contract feeding is necessary for increasing feed volume, the firm is ready to accept it.

"One thing, though," said Mr. Featherston, "we must pick our feeders carefully. Nothing but the market will be left to chance. Feeds will be formulated correctly, delivered in bulk form and a strict sanitation program followed. Only by watching all those things can we make a profit for ourselves and the cattle owner."

Farm Service Names Marketing Director

DES MOINES, IOWA—Eugene V. Stadel has been appointed director of the new marketing division of the Farm Bureau Service Co. of Iowa.

Mr. Stadel has been associate director of marketing for the Illinois Agricultural Assn. since 1956.

Mr. Stadel will have charge of the service company's marketing program, including the hog marketing set-up which has a concentration point operating at Tipton and another soon to open in Washington.

Miles Daly will be the manager of the Washington point. He has been managing a similar yard in Illinois for the last 10 years.

At your service . . .

Amos Standish, Central and Southeastern states representative for Farm Store Merchandising and Croplife, has experience as a farm equipment dealer and as a representative of a national lumber dealer publication.

When you want to know the ins and outs of selling to farm supply dealers or to the agricultural chemical people, call Amos at Harrison 7-0515 or write to 2832 Board of Trade Bldg., Chicago 4.

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Every week of the year, Grain Processing Corporation produces Solulac — has it available for the formulation of your feeds. So you can depend on a continuous supply. Make use of Solulac, with its high nutritional values, its GFF (Grain Fermentation Factors — unidentified growth factors found exclusively in Distillers Feeds) and vitamins. Guaranteed to be free flowing. Available in 50 and 100-pound bags or bulk carloads. For Solulac, or corn distillers dried grains — also in continuous supply — write, wire or phone.

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OUTLOOK

FEED PLANT SUPERVISION

"A plant or business is only as good as the men who run it. Let's help by providing the best supervisors."

By J. D. Johnson
General Mills, Inc.

My first contact with the feed industry was some 24 years ago as a mill hand in a small town feed mill.

Needless to say, there have been many changes in the industry in that 24-year period. And never has it been more important to have highly qualified and capable supervisory personnel in our feed plants.

As we look forward to the coming year and the next decade, it is well to focus attention on the need for and the selection and training of good mill supervisors. To show how important this aspect of feed manufacturing is, let's just make a comparison.

WHAT WAS FEED MILLING LIKE 24 YEARS AGO?

Ingredients were — ground grains, midds, bran, salt, limestone, bone meal, meat scraps, cod liver oil and molasses.

Equipment included—grain bins, a couple of elevating legs, hammermill, vertical mixer, sacking spouts, and one or two platform scales.

Packing material consisted of—used burlap sacks, needle and thread, or binder twine.

Formulas—Scratch grains, pig feed, laying mash, dairy feed.

There wasn't much required of a mill hand or a supervisor, except a strong back and the ability to eat dust.

HOW THINGS HAVE CHANGED—Today, the basic **ingredients** number 30 to 40, and micro-ingredients, minerals, vitamins, drugs, etc., add another 50 to 60 items.

Equipment—the basic tools of material handling are still there with some revisions; metering equipment, electronic controls, pelleting and crumbling equipment, automatic regulators—these are but a few of the many pieces of equipment in the present feed mill.

Packing material — Burlap, jute, cotton, paper and bulk, plus automatic packing and sewing equipment.

Formulas—Here is one place I do not like to stick out my neck—but here goes: 200-300, and more to come.

The above-mentioned changes are common knowledge, but these terrific changes point up the fact that the men and supervisors in feed plant operations can no longer provide just brawn.

REQUIREMENTS FOR A SUPERVISOR—The requirements for a supervisor are that he have basic training in or understand accounting procedures, maintenance and engineering, labor relations, human relations and sound training techniques, in order to do a satisfactory job. The reasons for this are:

Accounting—The many ingredients and formulas require accurate records on all incoming ingredients, packaging materials and maintenance parts. Many of the additives are under the Pure Food and Drug Administration, and as such separate and complete records of all drugs must be maintained. Finished feeds, either in sacks or bulk must be identified, inventoried, and recorded. Shipping records must be maintained. In the procuring area, part sacks are not the rule of thumb, but weighing must be made in fractions of a pound. The paper work is heavy, and it must be accurate to insure proper formulation, packing and shipping.

Maintenance and Engineering—Mill design has become complicated in order to incorporate the many ingredients in dry and liquid form; to reprocess into pellets, crumbles and cubes; and to provide flexibility that will allow production of many different formulas. This, coupled with the desire to continually reduce cost, means that sound engineering practice and time and motion study must be utilized by the supervisors. With the new machines have come metering equipment, automatic controls, electronic controls, etc. The supervisors must understand all this in order to assist in the maintenance program.

Labor Relations—Over the years, more and more plants have become unionized, and even those that are not unionized have adopted many of the same labor practices. It is very important that the supervisors have a good understanding of labor in order to maintain a smooth and efficiently run plant.

Human Relations—Suppliers, customers and sales people all come in direct contact with the supervisor. He must handle each differently, but again, it is essential that he know how to do this in order to do the best job.

Training—An employee will be as good a worker as the instructions and training program that are given him. Specific training and instructions must be developed for each department and job. Booklets, films, slides, instruction periods and a continual follow-up are a must for the supervisors. The supervisor must be good at expressing himself in spoken and written word if he is to do the training job that is necessary today.

Summing This All Up—In the past, a feed mill supervisor had few formulas, minimum equipment, and plenty of rugged men. Now the emphasis is on hundreds of formulas, specialized equipment for every phase of the operation, and the minimum of manpower. The present day supervisor must be a manager and a specialist in many fields.

SELECTING AND TRAINING SUPERVISORS—Where and how to find a man to fit the requirements is the problem. If it were possible to hire a mechanical engineer who had minors in business administration and psychology and had worked as a mill hand for a few years, it would be simple. Actually, the good supervisors come from many fields, and if they are strong in one, they develop the ability in the other fields as needed.

—An engineering graduate has all the knowledge necessary to design plants, revise flow or install equipment, but he needs training in business management, human relations, supervision and company policy.

—A business school graduate has the knowledge of accounting and business management, but needs training in mechanical problems. In addition, he must learn supervision, maintenance and human relations.

—A man from the ranks has the knowledge to run the machines, and do all the jobs, but he must learn supervision, maintenance, engineering, human relations, etc.

It is necessary for each man selected as a supervisor to learn those facets of supervision that he lacks.

Testing—How can the prospective supervisor be selected and trained? Tests can be given that determine mechanical knowledge. A person can have inherent mechanical ability without formal training.

Another test that is essential covers mathematics or plain arithmetic. Speed and accuracy are determining factors.

One of the most important tests is the adaptability test. This test determines how easily the man fits into the situation and whether or not he can supervise. Last, but not least, is a test for total intelligence.

Where can information be obtained as to what and how many tests to give? The psychology department at a local or nearby university will assist in helping select tests and give instructions on how to administer them. One of the best is the Occupational Research Center at Purdue University. These people will give assistance, or will refer one to consultants like the Psychological Corp., New York, or McMurray, Hamstra & Co., Chicago.

Interviewing — In addition to the tests, a thorough interview should be held with the applicant for a supervisory position. Companies with personnel departments will generally be able to provide information on techniques to be used in interviewing. This information also is available in books on plant management or can be obtained from universities and other sources.

In interviewing, information should be obtained on the following eight areas:

STABILITY—Has the applicant remained on one job, in one line of activity or one place of residence for a reasonable length of time? In short, has he stayed on the track or jumped off at every water-stop?

INDUSTRY—Has the man a habit of working steadily, voluntarily, conscientiously, and productively on every job he has been given? Does he get anxious if there is no constructive activity or progress?

PERSEVERANCE—Does he finish what he starts, regardless of difficulties or opposition? Does he quit when the going is rough?

LOYALTY — Is he loyal to his school, family, friends or company? Is he interested in being a team man and doing what is best for his employer?

SELF-RELIANCE—Can he do the job on his own, or must he be prodded and helped by others? Does he have the ability to solve problems by himself?

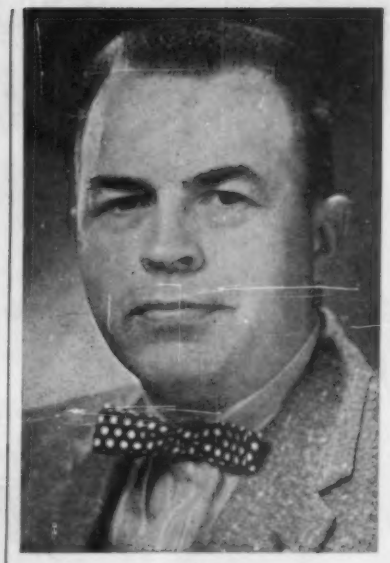
ABILITY TO GET ALONG WITH OTHERS—To what extent can he make and hold friends, maintain good relationships with his associates and superiors, and be accepted by all others?

LEADERSHIP — Can he inspire confidence, admiration, and trust in others so that they turn to him for help and guidance?

COMPETITIVENESS—Is he willing to compete with others and does he try to excel? Is he content to let others always be better?

Training—After selection, the new supervisor cannot be just thrown into the sea to sink or swim. A complete training program for supervisors is a real necessity. Every phase of supervision must be covered. This includes:

1. Organization and management.
2. Labor relations.
3. Safety and housekeeping.
4. Quality control.



J. D. Johnson

AUTHOR—J. D. (Don) Johnson is production superintendent for the feed division of General Mills, Inc., Minneapolis, manufacturer of Larro Feeds. Before assuming his present position six years ago, Mr. Johnson was a production supervisor, maintenance supervisor, plant engineer and plant superintendent. Mr. Johnson also is well known for his work as a former chairman of the Feed Production School. He is a graduate of St. Olaf College, Northfield, Minn.

NEED GOOD SUPERVISION—Modern feed manufacturing plants require the best of supervision if the efficiencies built into them are to be realized. This is the new mill of General Mills at Tampa, Fla.

5. Cost control.
6. Training of workmen.
7. Internal controls—records and reports.
8. Maintenance.

Each subject must be studied and discussed over and over until the man being trained as a supervisor knows that he knows it.

Help in this training procedure can be obtained through the use of outside source material. For example, McGraw-Hill Publishing Co. has books by the hundreds on nearly every subject that can help the individual if he will just spend some time reading, and then practice what he reads.

When a man first moves into a supervisory position, it is necessary that his superior lay out specifically what he is to do and what is expected of him. He should be provided with a written manual for the feed plant where he is working.

Also, he should be directed to use of outside source material on supervision. This often can be obtained through universities as well as publishers, as mentioned above. One example is a book called "Elements of Supervision," available through the University of Minnesota.

It is suggested that the training program involve concentration on one or two areas at a time. Of the different phases of supervision listed above, organization and management and labor relations might be studied for one six-month period. Then special attention could be given to safety and housekeeping, and so on.

Goals for the individual should be set, and then at least every six months his superior should review with him the progress that has been made. This is necessary to determine what has been accomplished and what needs to be accomplished in order to maintain the training and development at a steady pace.

Feed manufacturing is big business, and running a modern feed plant requires good men. A plant or business is only as good as the men who run it. Let's help by providing the best.

BULLETIN BOARD

(Continued from page 18)

from drafts. It takes chilling to bring on swine flu.

When flu strikes, most of the herd usually gets sick. Hogs go off feed and become gaunt. After-effects may be more costly than the disease itself; a cough may hang on for weeks.

Flu works fast. A herd healthy at night may be listless and off feed the next morning. By afternoon, most hogs will be depressed and take to their nests. By the next day, all may be sick.

Most animals with flu lie on their sides. A few rest on their bellies almost in a sitting position, with the body propped on the front legs. They breathe rapidly and with jerks or "thumps." They have a fever and you can walk among them without their being concerned. Some may die and the rest lose weight. A few days later, most get up with a cough and by the sixth day are improved.

Dr. Solac says there isn't much that can be done in the way of specific treatment, but the producer's veterinarian may prevent complications and further losses, and he can distinguish between flu and other diseases like hog cholera and virus pneumonia.

●

Same Feed: Same Yolk

Feeding systems used by Montana poultrymen have resulted too often in variation in yolk color that is objectionable to consumers, according to Dr. George T. Davis, extension service poultry specialist, Montana State College.

Some dealers, as a result, he says, prefer to buy out-of-state eggs because they are produced to provide more uniform quality than can be obtained from most Montana producers.

Dr. Davis suggests this simple solution to the problem: Make certain that every hen is eating the same feed.

The only way this can be guaranteed, he explains, is to provide the laying flock with a complete "one feed" ration. Such rations are available from all feed manufacturers. The grower who wishes to use his own grains can obtain from his feed dealer a concentrate which contains all ingredients except the grain.

Dr. Davis points out that the days of feeding whole grain and mash separately are gone for the poultryman who wishes to satisfy his customers.

MILL EXPANDED

NEW YORK MILLS, MINN.—Expansion of the Mills Farmers Elevator feed mill department has more than doubled its capacity. The firm also operates a drying plant.

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Rigid laboratory control ends trace-mineral worries

Lime Crest TRADE MARK BRAND

All Lime Crest trace-mineral pre-mixes, both standard and custom made, are under rigid laboratory control. That control begins with the ingredients and doesn't end until the final product has been checked.

Because of Lime Crest's complete laboratory control (both chemical and spectrographic methods are used) the feed manufacturer who uses Lime Crest trace-mineral pre-mixes need not worry that his feeds contain too little or too much of the trace minerals his nutritionist has specified.

LIME CREST TRACE-MINERAL PRE-MIXES
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World's Largest Producer of Crystalline Calcite Products
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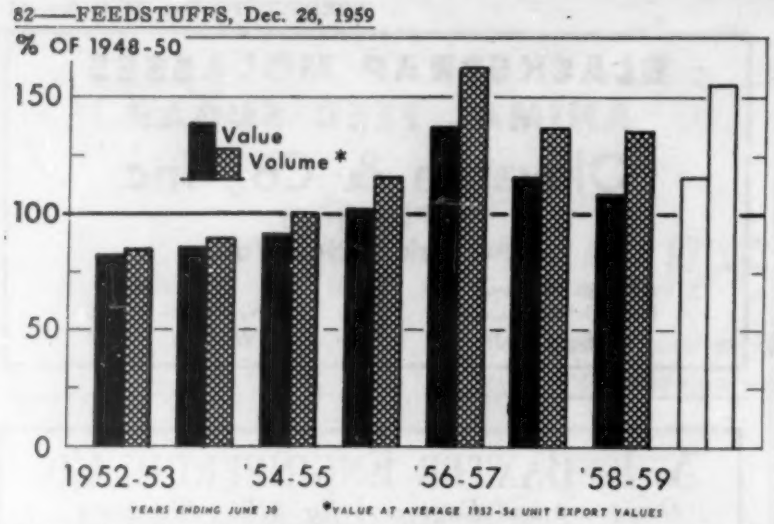


FARM EXPORTS AT HIGH LEVEL—Both the value and volume of agricultural exports are expected to increase during the 1959-60 fiscal year—as this U.S. Department of Agriculture chart indicates—with the latter likely to be second highest on record. Demand appears strong for fats and oils, oilseeds, feeds, fruits, vegetables and rice.

FUTURE

(Continued from page 24)

under rather heavy downward price pressure during late 1960 with below normal yields.

MILO—Sorghum production in the range of 600 million bushels is estimated for 1959. This is the third large crop in a row. In 1957, when 560 million bushels were harvested, it was a generally held opinon that this record would not be reached again for some time. This was wrong. By now we should be getting used to the idea that big sorghum crops are possible.

Milo prices will be under more downward pressure this year than last during the early part of the year. This is partly because of the 31¢ cwt. reduction in support rates. Also, because the large buildup in sorghum supplies occurred following a severe drouth in the Southwest where sorghums are grown, farmers and ranchers had sold off livestock and hadn't time to replace them to feed the sorghum. They may overstock and this would put a late season "kicker upper" behind milo prices in the Southwest.

Seasonally there is a rather strong tendency for grain sorghum prices to advance during the first six months of the year. There is expected to be some small advance from January through July but not as much advance as is the usual case. Feed manufacturers may find a larger than usual interest among farmers in supplementing the feeding of sorghum grain. Also, with large supplies available, feeding of livestock is likely to increase in the grain sorghum growing areas.

Forecasting prices is more uncertain this year because of record supplies. Never before have we had as much corn or sorghum grain available during a feeding year as we have at the start of the 1959-60 season. Past patterns will not exactly fit this year's situation and therefore will not throw as much light on the situation as would be desirable.

This year, perhaps more than ever before, is a good year to keep your eye on the market.

OATS AND BARLEY—Oats production of 1,075 million bushels was down 350 million from 1958. The 1959 oats crop was the smallest in 20 years. The barley crop yielded 408 million bushels, short 62 million compared to last year.

Price-wise, oats have been good property, bringing a higher per pound price than corn in the big Chicago market and an even more favorable price at some of the country points.

Fairly steady barley and oats prices are expected until spring when prospects for the 1960 crop are better known.

SURPLUS FEED SITUATION—What to do about the surplus feed situation has many people puzzled. U.S. production of the four major feed grains (corn, oats, barley and sorghums) is estimated this year at 166.7 million tons. This compares with the 1958 production of 157.7 million and a 1953-57 production of 129 million. This year's production set a new record.

Old-crop feed grains on hand at the beginning of the 1959-60 feeding season are estimated at 67.4 million tons. This is 14% larger than for the previous season and nearly double the 1953-57 average. This carryout, plus the bountiful harvest, will provide ample feed supplies for the present feeding season.

The total supply of feed concentrates is expected to average 1⅓ tons per grain consuming animal unit, another record! (An animal unit requires feed about equal to the quantity required by one dairy cow.) The gap between supplies and the amount fed has been increasing at a rapid pace. This will be the seventh year in a row that supplies on hand at the end of the feeding season have increased.

FEED FIRM CHARTER

TOPEKA, KANSAS — Haverkamp Fertilizers, Inc., Hiawatha, Kansas, has been granted a charter to make fertilizer and animal feeds. Norbert Haverkamp has been named resident agent. Capitalization of $50,000 was authorized.

BIGGER PAY LOADS!

Daffinaire BULK UNLOADER

The Daffin*aire* Bulk Truck Unloader is far lighter than conventional types . . . allows trucks to carry comparatively greater pay loads!

Owners are pleased. For example, H. S. Robertson, Jr., of Blackstone Fuel & Supply Co., Inc., Blackstone, Va. says:

"We are extremely pleased with the operation of this machine, and are pleasantly surprised how fast it unloads feed."

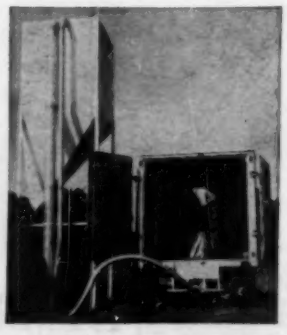
Daffin*aire* Bulk Unloader Features:

Kit to fit any specified truck with available Power Take-Off.

Positive displacement Air Pump.

Capacity of 10 to 15 tons per hour, depending on materials.

Write today for more information.



Blackstone unit in action. Couplings on lightweight Daffin*aire* Unloader fit standard storage tubes.

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Builders of the World-Famous Daffin Feedmobile, Packaged Feed Plants, Pelleting Machines, Batch Mixers

SERVICE PARTS DEPOTS: Alabama-Birmingham-Montgomery • Arkansas-North Little Rock • Georgia-Perry • Illinois-Springfield • Indiana-Evansville-Indianapolis Iowa-Cedar Rapids • Kansas-North Kansas City • Kentucky-Shelbyville • Michigan-Detroit-Grand Rapids • Minnesota-Rochester • Nebraska-Omaha • New York-Syracuse-Tonawanda • North Carolina-Laurinburg • Ohio-Cincinnati-Cleveland-Dayton-Toledo-Youngstown • Pennsylvania-Lancaster-Wexford • South Carolina-Laurinburg • S. Dakota-Sioux Falls • Tennessee-Knoxville-Memphis • Texas-Dallas-Houston-San Antonio • Virginia-Lynchburg • Wisconsin-Oconomowoc • Canada-Toronto

DAFFIN MANUFACTURING COMPANY, 3297 NORTH PRINCE STREET, LANCASTER, PENNSYLVANIA

KAFIR & MILO
Largest Dealers in Southwest
MID-CONTINENT GRAIN CO.
Board of Trade Victor 2-4671
KANSAS CITY, MO.

SPECIFY
Columbia Calcium
COLUMBIA QUARRY CO.
1007 Washington Ave.
ST. LOUIS 1, MO.

Plans Ready For Southeastern Poultry Meeting

DECATUR, GA.—Plans are virtually complete for the nation's largest poultry convention-exposition —the annual Southeastern Poultry & Egg Assn.'s gathering—in Atlanta's Municipal Auditorium, Jan. 25-27. Its theme is "Let's Face the Facts."

Dr. John Furbay, director of Trans World Airlines' cultural and education program, will keynote the convention's three-day program with his discussion of "The Shape of Things to Come."

Henry C. Tilford, Jr., Shelbyville, Tenn., is president of the 10-state association and will preside at the opening session. The association's business meeting, including election of officers for 1960, is slated later Monday.

The Georgia Poultry Federation will hold its annual business meeting following Monday's educational program.

Space in the five rooms for commercial exhibits is sold out, according to Harold E. Ford, the association's executive secretary. Hotel and motel reservations made to the Atlanta Convention Bureau indicate attendance will surpass the 5,954 attending last January.

The exhibit halls at the municipal auditorium will open Monday at 9 a.m., with the initial program scheduled to begin at 2 p.m. Approximately 185 makers of poultry supplies and equipment, poultry breeders, feed manufacturers and related businesses will display their products for the poultrymen who will come from more than 20 states.

A turkey program is scheduled Tuesday to run concurrently with a general program which will feature management in the morning and egg marketing in the afternoon. The Georgia Egg Assn. meeting concludes the afternoon's program but the association's annual banquet is scheduled Tuesday evening. At this time, the southeastern area Future Farmers of America broiler production champion will be named from the state winners attending.

Wednesday has been designated as Producer Day when topics of interest to broiler producers will be taken up.

Automatic Poultry Feeder Goes National

SANTA ROSA, CAL.—The Polley Automatic Spoon Feeder for poultry, distributed until now only in certain sections of California, will be produced on a mass basis for sale throughout the entire U.S. and Canada.

Conrad Grant, for many years owner of the Grant Domain Co., has purchased the exclusive rights for manufacturing and selling of the Polley feeder, developed about four years ago by Charles Polley. Since about 1956, Mr. Polley has been making the automatic feeder by hand, and selling it only in certain poultry producing areas of the state.

Mr. Grant is president of the newly-organized Polley Feeders, Inc., and is contracting the manufacture to a factory in nearby Sebastopol.

Aid Asked in Judging Chemical-Food 'Risk'

MADISON, WIS.—Wisconsin Gov. Gaylord Nelson has asked that University of Wisconsin scientists help evaluate the "possible hazards to the public arising from the use of chemicals in growing and producing agricultural food products."

In a letter to Conrad Elvehjem, University president, the governor suggested that UW scientists be selected to work with appropriate state agencies in "a coordinated effort to provide sound guidance" to the public officials and legislators who must deal with this problem.

Gov. Nelson said the public alarm arising from the recent cranberry scare "has focused attention upon a problem which is sure to become increasingly acute."

He said the hardships suffered by the cranberry industry show the danger that exists "even for firms and individuals who may be completely innocent of any wrongdoing or negligence."

Full account must be taken of the effects of chemicals in agriculture upon the public health, welfare, soil, water and wildlife, as well as the economic aspects, Gov. Nelson said.

Darrell Clark Joins Illinois Feed Firm

MENDOTA, ILL. — Darrell Clark of Mendota has joined the sales organization of the DeKalb Molasses Feed Co., according to a recent announcement by that firm.

Darrell Clark

Mr. Clark will serve with the sales organization as a special territory representative, the announcement said.

Mr. Clark previously was affiliated with the Mendota Concrete Crib Co., also of Mendota. He served with this firm for many years.

The DeKalb Molasses Feed Co. manufactures supplements for livestock.

HARD TO BEAT

Broiler Chicks from Pilch Females crossed with a leading male line.

Pilch's Poultry Breeding Farms, Inc.
Hazardville, Conn.-Talladega, Ala.

TESTS ON CHICKS SHOW THAT *Vitamin A* STRENGTHENS THE BARRIER AGAINST INFECTION

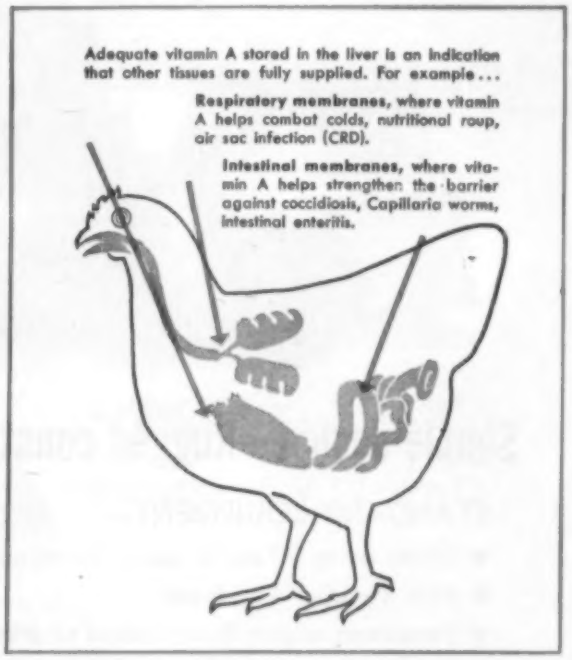
Mucous membranes lining the gastrointestinal and respiratory tracts are the primary barriers which prevent the entry of infective agents into the body proper. Vitamin A is critically involved with the defense mechanism of the mucous membrane. Adequate vitamin A keeps the mucosa healthy, enables the chick to resist infection. Insufficient vitamin A renders the chick liable to infection through both respiratory and intestinal membranes.

Why are liver stores of vitamin A important?

Reserves of vitamin A are the essential safety factor against stress. Reserves are stored in the liver, but only after other tissues are adequately supplied. Therefore, when chicks show good liver storage, it is a sign that other tissues are saturated with vitamin A.

The most effective vitamin A supplement: Nopcay® Type V

Test after test has shown that preformed vitamin A such as Nopcay Type V produces very high liver storage. This means that it protects the mucous membranes and helps combat infections such as chronic respiratory disease and coccidiosis.


Adequate vitamin A stored in the liver is an indication that other tissues are fully supplied. For example...
Respiratory membranes, where vitamin A helps combat colds, nutritional roup, air sac infection (CRD).
Intestinal membranes, where vitamin A helps strengthen the barrier against coccidiosis, Capillaria worms, intestinal enteritis.

SUPPLEMENT YOUR FEEDS WITH NOPCAY TYPE V BECAUSE IT CONSISTENTLY BUILDS UP HIGH LIVER STORAGE LEVELS OF VITAMIN A AND THUS ASSURES THE MOST EFFECTIVE PROTECTION TO ALL OTHER TISSUES

NOPCO

NOPCO CHEMICAL COMPANY

General Offices: 60 Park Place, Newark, N.J.
Plants: Harrison, N.J. • Peoria, Ill. • Richmond, Calif.

Basic producers of Micratized® Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

Crop Production Matches '58

WASHINGTON—Total crop production in 1959 matched the all-time high of 1958, according to the U.S. Department of Agriculture.

USDA said in its 1959 annual crop production summary that harvested acreage was slightly larger, but yields were not as uniformly high as last year. The crop season was well above average for the nation as a whole, in spite of serious difficulties in some sections, the report notes.

Corn and cotton had near record yields on sharply expanded acreages. The feed grain group pushed to a new high, but the oil crop and food grain groups were well below the 1958 peak. The hay and forage groups were lower than in 1958 also.

USDA estimates all corn production at a record 4,361 million bushels, 15% above the previous record last year and 34% above average.

However, the report notes that the 1959 oats crop of 1,074 million bushels was the smallest since 1939. It was 24% less than last year and 18% less than average.

Soybean production in 1959 is estimated at 538 million bushels. This is 7% below last year's record production of 580 million bushels but is nearly two-thirds above average.

Barley production in 1959 also was down, totaling 420 million bushels, 12% below the record crop in 1958, but 32% above average.

Production of sorghum grain is estimated at 579 million bushels, the third successive crop of over one-half billion bushels. The total crop about 5% below the 1958 record.

Flaxseed production suffered a sharp drop. The 22.7 million bushel total was more than a third below the previous year and the average.

Although yields of many crops were well below a year earlier, total crop production managed to hold up to 1958. The all-crop production index was 118% of the 1947-49 base, equalling the outstanding record of 1958, USDA notes.

Crop Production, 1959 Annual Summary

Acreage, Yield and Production

Crop and unit	—Acres harvested (thousands)— Average 1948-57	1958	1959	——Production (thousands)—— Average 1948-57	1958	1959
Corn, all, bu.	80,228	73,327	84,609	3,251,064	3,800,863	4,361,170
Wheat, all, bu.	60,601	53,404	53,024	1,075,391	1,461,714	1,128,151
Winter, bu.	42,874	41,351	40,523	814,784	1,179,269	923,449
All spring, bu.	17,727	12,053	12,501	260,606	282,445	204,702
Durum, bu.	2,342	900	1,220	29,439	21,381	20,682
Other spring, bu.	15,385	11,153	11,281	231,167	261,064	184,020
Oats, bu.	37,431	31,834	28,496	1,306,458	1,415,570	1,073,982
Soybeans for beans, bu.	15,498	23,900	22,428	326,020	579,713	537,895
Barley, bu.	11,513	14,923	15,074	318,301	475,196	420,191
Flaxseed, bu.	4,698	3,789	3,132	39,700	38,568	22,709
Sorghum grain, bu.	9,784	16,658	15,575	213,109	610,376	579,178
Cottonseed, tons	....	....	....	5,760	4,798	6,100
Hay, all, tons	74,081	73,004	69,404	107,134	121,819	112,764

Soybean Minimum Price Is Continued

WASHINGTON—The U.S. Department of Agriculture has announced that the minimum sales price through March, 1960, for soybeans in the Commodity Credit Corp. inventory will be not less that 20¢ bu. above 1959-crop county price support rates.

This minimum price has been in effect since Oct. 1 and is currently in effect for the month of December.

The basis for determining each month's sales prices for soybeans will be announced in CCC monthly sales lists. In no event will this pricing be less than the minimum announced.

The county support rate for grade No. 2 soybeans at the point of storage is used in determining the minimum sales price in-store. Value of any transit is added to the price. Market discounts for quality factors are applied. To this is added the 20¢ bu. to obtain the minimum price. This method will continue to be followed during the January-March, 1960, period.

As of Dec. 7, CCC had an uncommitted inventory of approximately 14 million bushels of soybeans. Since June 1, approximately 61 million bushels of soybeans acquired under price support operations have been sold by CCC.

As announced Sept. 16, no soybeans will be sold from CCC inventory between now and Oct. 1 at less than the price support level for the 1959 crop.

NEW MILL OPENS

PRINCETON, IND.—The $165,000 Farm Bureau Co-op mill and elevator has been completed and is open for business just east of here.

COUNSEL CHOSEN

CHICAGO—Harry P. Heuer, president of the Peter Hand Brewing Co. and the Peter Hand Foundation, manufacturer of livestock feed supplements, has announced the selection of Aaron D. Cushman & Associates as public relations counsel for the two firms.

For the Finest in Mobile Equipment . . .

CHAMPION

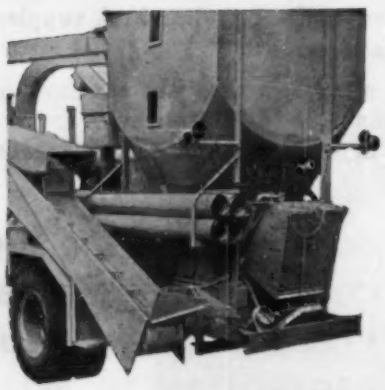
Simple design—Rugged construction—Low-cost maintenance

STANDARD EQUIPMENT—

- Direct drive, 332 cu. in. engine-driven mill.
- 14-ft. swinging drag feeder.
- Permanent magnet located *ahead* of grinder.
- Two- to three-ton mixing capacity.
- 15-ft. swinging discharge auger.
- Low, wide concentrate hopper.
- 2- to 3-tons concentrate carrying capacity.

OPTIONAL EQUIPMENT—

- GMC Diesel direct-drive power.
- Platform concentrate hopper.
- 8-compartment bulk concentrate carrier.
- Air unloading (plus standard auger).



Champion's air unloading system— the industry's finest, cleanest air system ever installed on any mill and mixer unit. By furnishing both air system and/or auger discharge Champion units provide complete unloading convenience.

CHAMPION PORTABLE MILL CO.
2109 COMO AVENUE SOUTHEAST • MINNEAPOLIS 14, MINNESOTA

To all our

JOBBERS
DEALERS
and
FRIENDS

In the Industry

We extend sincerest wishes for a Happy Holiday Season

Your continued loyal support of our many products over the years has been very gratifying and we wish everyone

A MOST PROSPEROUS NEW YEAR

RYDE & CO.
3939 So. Union Ave.
Chicago 9, Illinois

Jones-Hettelsater Merges with Iowa Construction Firm

KANSAS CITY—Jones-Hettelsater Construction Co. of Kansas City, for 40 years identified with the field of design and construction for the grain storage and agricultural products processing industries, has merged its operations with the Weitz Co., Inc., Des Moines.

The name "Weitz-Hettelsater Engineers, a division of the Weitz Co., Inc.," will be used for the operation of the organization in the field heretofore covered by Jones-Hettelsater Construction Co. All employees of the latter will continue with the new organization and A. R. Hettelsater, president of Jones-Hettelsater, will continue as general manager of the Kansas City organization. He also will become vice president of the Weitz Co., Inc.

Jones-Hettelsater Construction Co. was organized in 1920 by E. N. Jones and A. R. Hettelsater. Mr. Hettelsater has been president of the company from its beginning. Mr. Jones died in 1937. Jones-Hettelsater has a long record in the engineering and construction field.

The new organization plans to add to its past undertakings by broadening its activities into related and new process industries. Extensive research and development in these fields are planned.

The Weitz Co., Inc., was established in Des Moines in 1855 and is in its third generation of management by the Weitz family interests. Its work has been confined to buildings and other structures, principally for industry and other private owners, although it also is identified with public construction.

The Weitz Co., Inc., is headed by Rudolph W. Weitz, chairman of the board and chief executive officer. Leonard G. Howell is president. Principal offices are in Des Moines.

Carroll Swanson Firm Adds Two to Staff

DES MOINES — Carroll Swanson Sales Co. has added two sales and service men to its staff.

Fount King, Oskaloosa, has been appointed to service the northeast part of Iowa. Prior to becoming associated with Swanson, Mr. King was on the retail service staff of one of the larger mills in Iowa and has had several years experience in agriculture and working with livestock.

Ed Fischer is now representing the company in Missouri and Kansas. Mr. Fischer has had several years of technical training and experience as district manager for a trace mineral and vitamin manufacturer. He has had practical experience as a farmer and livestock feeder.

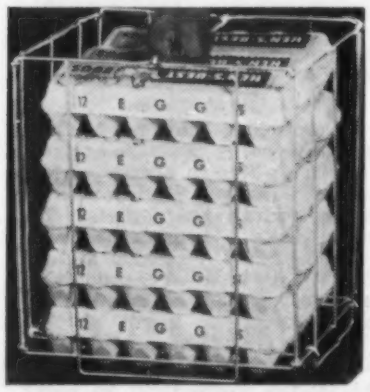
C. J. Bilbrey, who has been serving northeast Iowa for the company, has been transferred to Swanson headquarters in Des Moines and will assist in advertising and sales promotion.

NEW FEED STORE

DOUGLAS, GA. — A charter has been granted to E. L. and W. S. Houston, both of Douglas, and N. L. Thomas, Hazlehurst, to operate a feed and seed store under the name of Douglas Feed & Seed, Inc. The store is located in Douglas.

VAN DUSEN HARRINGTON
DIVISION
F. H. Peavey & Co.
GRAIN SOYBEANS FLAX
Founded 1852
MINNEAPOLIS DULUTH

FEEDSTUFFS—*LEADER in its field*
More advertisers use FEEDSTUFFS than any other publication in the feed industry



CUT COSTS
OF
MARKETING EGGS
WITH "T"-LINE
WIRE BASKETS

USDA survey shows collapsible wire baskets cut cost of retailing eggs. No need for re-handling each carton. Saves egg breakage. 15 dozen cartons remain in wire basket from producer to consumer. Last 10 times longer than fiberboard cases. Folds flat for returning or storage. Takes seconds to open. Baskets interlock for display or trucking.

LEASE BASKETS FOR 12 CENTS PER MONTH

On 3-year lease with no capital investment. "T"-LINE Wire Baskets are GUARANTEED against BREAKAGE . . . INSURED against THEFT. Send for literature and sample basket today. Your money back if not satisfied. TOBIAS ENTERPRISES, 326 North Michigan Ave., Chicago 1, Illinois.

SEND $3.50 (Postpaid) FOR SAMPLE

RESEARCH PROVED
for Better Feeds

SEA®PEP BRAND

SEA PEP BRAND FISH MEAL

SEA PEP BRAND FISH SOLUBLES
(Lassen Process)...liquid or dry

SEA PEP BRAND VITAMIN FEEDING OILS

vanco A

*Patents applied for

VANCO DRY VITAMIN A

VANCO DRY VITAMIN D

VAN CAMP LABORATORIES
A Division of
Van Camp Sea Food Company
Port of Long Beach, California

Exclusive Sales Representatives
ARCH SALES CO., Denver
B. A. LUCIUS CO., Fort Worth
M. A. McCLELLAND CO., Kansas City
COOK & HARMS, INC., San Francisco
J-M TRADING CORP., Chicago

"SEASONIZED" CONCEPT—The "seasonized" concept of feeding, recently introduced by Kent Feeds, was introduced by Miss Donna Scott at the Cedar Rapids, Iowa, sales clinic. Otis Joiner, general manager, holds the card introducing the winter feeds. Bill Schafenacker (right), also participated in the program.

Kent Holds Sales Clinic for Dealers

CEDAR RAPIDS, IOWA—A background of the "seasonized" feeding concept recently introduced by Kent Feeds, plus a complete analysis of several new feeds in the Kent line dominated a two day sales clinic here. The clinic was attended by some 250 dealers and sales personnel.

Information was presented by the company's personnel in forms varying from pretty girls to charts and graphs.

Highlights of the meeting were the talks by Dr. Hjalmar Clausen of Denmark and Joseph Burger, director of public relations, H. V. Nootbaar & Co., Pasadena, Cal.

Dr. Clausen who has been in charge of the Danish Swine Testing Station the past 25 years, is credited with developing Denmark's bacon-type hog. He traced the development of Denmark's program and pointed out the major aspects contributing to the success the program has achieved.

Mr. Burger pointed out the requirements of good selling and selling techniques.

LAMB FEEDING — Max Churchill, assistant nutritionist, presented the new Kent feeding program to the dealers and sales personnel.

HOG RAISING—Dr. Hjalmar Clausen (left), swine specialist from Denmark, and G. A. Kent, president and founder of Kent Feeds, Muscatine, Iowa, exchanged greetings and information on hog raising at the firm's sales clinic at Cedar Rapids, Iowa.

To Air Major Feed Trade Questions at Washington Event

SEATTLE—Several industry topics of importance to feed men in Washington—and other states, too—will be covered in a panel discussion which will be the highlight of the 1960 convention of the Washington State Feed Assn.

The convention will be held Feb. 12 at the Chinook Hotel in Yakima. On Feb. 10-11, preceding the convention, the association will sponsor the sixth annual Pacific Northwest Feed Mill Production School.

The convention panel discussion will take up some of the most timely questions facing feed men today.

John G. Wilson, association manager, Seattle, reports that during a two-hour session, a six-man panel will discuss these topics:

1. Sale of custom mixes at so much per ton over ingredient cost.
2. Guaranteed price per bird to the grower.
3. Is there a place for the retail dealer within the industry as we know it today? If so, how will the retailer survive?
4. Methods of merchandising feed to the consumer in eastern Washington vs. western Washington.
5. Does the feed industry feel it is necessary to secure its market for feed by all-out contract growing of broilers, layers, turkeys, beef cattle and hogs?
6. Are the feed industry members anticipating owning the poultry housing as well as the chicks?
7. Within five years will there be a shift in methods of egg production?
8. What can be done to keep the independent producer independent?
9. Will direct sales of feed from large firms to producers increase?
10. Are the feed companies interested in profit on eggs or feed, or does it matter where they make their profit?
11. Does the expansion of supermarkets signal any shifts as to the number of buyers of poultry, cattle, hogs, etc.?

Chemo Puro Acquired By Century Chemical

NEW YORK—Chemo Puro Manufacturing Corp., Oil & Chemical Terminals, Inc., and asphalt division of Oil & Chemical Products, Inc., all of Newark, N.J., have been acquired by Century Chemical Corp.

Theodore Hodgins, president, said acquisition of the three concerns which make fine organic chemicals, pharmaceutical intermediates and animal feed supplements will bring Century's annual sales to about $10 million from the $2.2 million recorded prior to the acquisitions.

Century also announced acquisition of 92% of the stock of Chemo Puro, AG, sales organization headquartered in Zurich, Switzerland.

Tonnage Hits Plateau

RALEIGH, N. C. — The 1,556,026 tons of feed recorded by the North Carolina Department of Agriculture during the fiscal year 1958-59 was half again as much as the 1953-54 total of 1,043,434 tons. However, the state's feed tonnages July-October of 1959 ran behind the previous year for the same period—515,795 tons compared with 538,897 tons.

UDDER OINTMENT PROVES VERSATILE

ASHLAND, OHIO—"Dairymen use it as a treatment for chapped, irritated dairy cow udders. Farmers use it year-around to keep hands from chapping. Ladies use it to clear chapped feet and legs. Sunbathers use it for relief from sunburn. The whole family finds it effective in relieving minor burns."

These are said to be a few of dozens of uses that have been found for Udder Ointment, one of the medicated animal health products from Hess & Clark, Ashland, Ohio.

"This ointment originally was manufactured for use as an udder ointment for cattle, but the public soon found many additional uses in the home," according to Hess & Clark officials.

"The majority of the various uses have been discovered by accident. Dairymen noticed their hands were soft and pliable after they applied the ointment to the cow's udder. Others found it to be effective in relieving burns, soreness and bruises and treating minor cuts and abrasions when the family supply of a specially designed treatment was gone."

Researchers at Hess & Clark laboratories point out that the ointment contains soothing ingredients with a lanolin base that gives it healing qualities.

Ohio Research Shows Light and Turkey Egg Laying Are Linked

WOOSTER, OHIO—Poultry scientists at the Ohio Agricultural Experiment Station are cashing in on the turkey's sensitivity to light. Their knowledge is paying off in more hatching eggs per turkey hen.

Turkey hens are not as dependable layers as chickens, especially in summer and fall. This erratic production is tied up with light striking the turkey's eye, according to Dr. M. G. McCartney, whose findings are making year-round turkey egg production possible.

"The turkey hen apparently does not lay well during the warm seasons because she first must be exposed to a darkening period to bring on reproduction," Dr. McCartney said.

The whole egg-laying mechanism is triggered by the light-sensitive pituitary gland at the base of the turkey's brain. This hormone-secreting gland controls the development of the turkey's ovary and oviduct.

Triple Production

By controlling light, Dr. McCartney has found, he can triple egg production. He gets an almost fourfold increase in average poult production per breeder during a 12-week reproductive period. This means hens with controlled lighting grossed an average of $7.50 more in terms of poult value per breeding hen than hens exposed to only natural day length.

Here are steps recommended by Dr. McCartney:

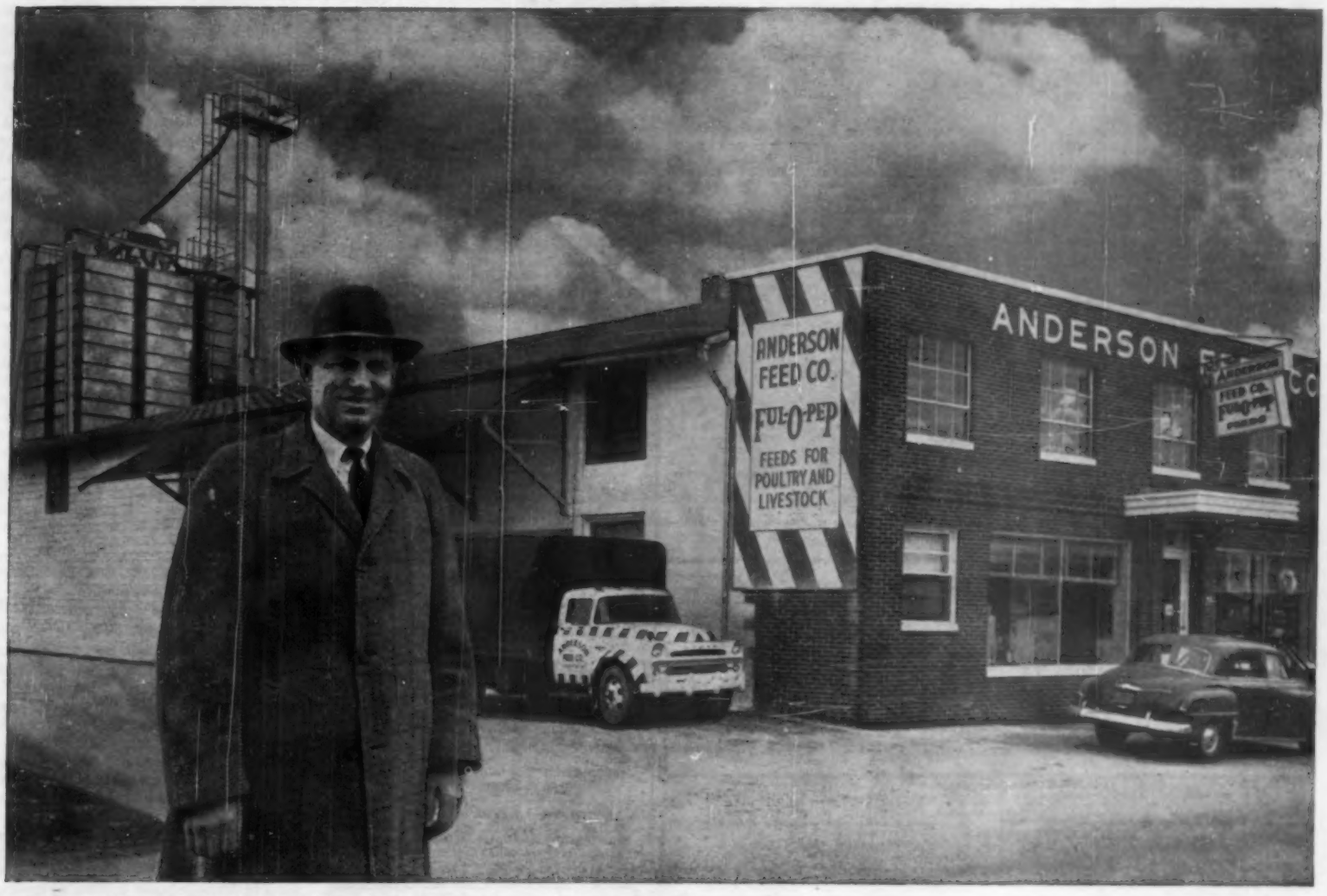
- Start the poults about 30 weeks before collection of hatching eggs is expected to begin.
- At about 20 weeks of age restrict the pullets to a nine-hour day.
- After a six-week period of light restrict to a nine-hour day, increase the length of day to stimulate production. A 15-hour day may be provided by either an abrupt change or by gradually increasing day length two hours a week until the turkeys are receiving the full amount.

REPURCHASES MILL

WAYLAND, MICH.—Hugh Morrison has resumed ownership of the Leader Feed Mill. Donald DeJager, who has been operating the mill for the past four months, sold his interest back to Mr. Morrison and returned to Grand Rapids.

"By cutting costs of egg production, Ful-O-Pep is helping poultrymen gain a competitive edge,"

says **ROGER A. MORRISON,** *Manager of Eastern Feed Division of The Quaker Oats Company, in this report to Ful-O-Pep Feed Dealers*



ROGER A. MORRISON, a Ph.D. from State College of Washington and Army Captain in World War II, left extension work in 1954 to join The Quaker Oats Company in nutritional research. Soon after advancing to Manager of Feed Sales Training, he was promoted to his present position.

"Here in the East, poultry is a big business—and very competitive. At the same time, costs are rising and to combat them, flock owners are making heavy demands on feed dealers. It's a challenge, however, that good Ful-O-Pep Dealers are thriving on.

"You see, The Quaker Oats Company is providing two ways for Ful-O-Pep Dealers to help fight rising costs. One is with the added nutritional strength built into Ful-O-Pep Feeds. For instance:

New Ful-O-Pep has produced a dozen eggs on only 3.45 pounds of feed in on-the-farm tests!

"Customers of Ful-O-Pep Dealers don't need fancy slide-ruling to figure this profit potential.

"Another cost-cutting help is Quaker's bulk handling of feeds. This is a new way Ful-O-Pep Dealers are putting out a complete feed at a price that is more profitable both to them and feeders. Our men are trained to help Ful-O-Pep Dealers finance and install bulk handling facilities—also grinding and mixing equipment for combining grain and concentrates.

"As a result, Ful-O-Pep Dealers are chalking up some great success stories. Bigger orders—more customers—greater profits. We're glad to have inquiries from other dealers who want the advantages of the Ful-O-Pep Feeds franchise."

Roger A Morrison

FUL-O-PEP FEEDS

made by The Quaker Oats Company

We invite Feed Dealers to visit our modern Feed Mills located at: Cedar Rapids, Ia. Memphis, Tenn. • St. Joseph, Mo. • Sherman, Tex. • Shiremanstown, Pa. • Lawrenceburg, Ind. • Chattanooga, Tenn. • Tampa, Fla. • Asheville, N. C. • Jasper, Ala.

☆ Classified Ads ☆

Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. In figuring cost of your classified ad . . . each word, abbreviation, telephone exchange and number, set of initials, or group of figures counts as a word. To the number of words in your want ad itself add six (6) words for your name and address or name and address of your firm. This applies for both direct-reply ads and for blind ads containing a box number. If an ad is keyed, care of Feedstuffs, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $12.00 per column inch. No discount on ads ordered for more than one insertion. All Want Ads cash with order.

MACHINERY FOR SALE

12½-TON TOLEDO DIAL SUSPENSION hopper scale, like new, 32 inch dial, Model 2500. O. W. Meyer, Napoleon, Ohio.

FOR SALE—DAFFIN MOBILE GRINDER; low mileage, low diesel hours. Contact Kenneth F. Nuller, R.F.D. No. 2, Ilion, N. Y.

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

CHAMPION MOBILE GRINDER AND mixer units. Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

FEED MIXER, 1-TON CAPACITY, GUAR-anteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3475, Feedstuffs, Minneapolis 40, Minn.

50 H.P. CALIFORNIA PELLET MILL, complete with crumblizer, cooler, leg, motors and drives, good condition. Available immediately, $6,500. Vita Plus Corporation, Madison, Wis.

FOR SALE—REBUILT 50 H.P. WENGER straight hi-molasses pellet mill and molasses feed mixer, 2½-ton per hour capacity of high molasses pellets. Wenger Mixer Mfg., Sabetha, Kansas.

FOR SALE—NEW AND RECONDITIONED Richardson, and O. B. bagging scales; Union Special, Fischbein, Minneapolis, and Wilcox & Gibbs sewing heads. Whizzer bagging conveyors, bins. Winborns, Mill Equipment Service, Williamsburg, Iowa.

DAFFIN FEEDMOBILE, GMC TRUCK, diesel engine and mill all reconditioned at authorized Daffin service depot. Now prime coated ready for painting to specification. Price, $7,950. Address Ad No. 5474, Feedstuffs, Minneapolis 40, Minn.

MACHINERY FOR SALE

FOR SALE—ENCLOSED MOTORS; RICH-ardson Scale; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

SALE—UNUSED STURTEVANT NO. 9 RO-tary blender; 150 cu. ft. Sprout-Waldron; 335 cu. ft. horizontal ribbon mixer, unused; Type 304 stainless steel dry material handling installation, including: 1,800 cu. ft. weigh hoppers, bucket elevators, shaker and screw conveyors, etc. Perry, 1403 N. 6th St., Philadelphia 22, Pa.

DORSEY MECHANICAL BULK FEED truck; demonstrator; 3,800 miles; two compartments, 305 cu. ft. capacity, mounted on 1958 Dodge L8D500; complete $4,500 or will sell body alone at $1,500 plus mounting and PTO, F.O.B. Bridgeville, Del. Write for specs. Newton's, Bridgeville, Del.

100 H.P. ACE SPROUT-WALDRON PEL-let mill, complete with motor, coolers, Pneu-Vac air system; 60 H.P. Sprout-Waldron pellet mill and cooler; 50 H.P. heavy duty California pellet mill; 5-ton S. Howes Eureka horizontal mixer, with silent chain drive and 40 H.P. motor. Call or write J. E. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.; Phone 6-2197.

MOBILE MILL REDUCED SINCE LAST ad. Must sell. Has 471 GMC diesel (120 H.P.); 20" Industrial hammermill with magnet, 125 bushel mixer; extra large space for carrying sacked and bulk feed. Mounted on 1956 S-160 2-speed "cab-forward" International with new motor. Unit in excellent condition throughout. Reduced to $7,950. Call Advance Farm Service, Madison, S. D.; Phone Clinton 6-4266.

HELP WANTED

NATIONAL FEED INGREDIENT PROC-essor desires reputable salesman, nutritional background. Call on feed mills, New York, New Jersey, Delaware, Maryland. Excellent opportunity to establish satisfying career. Write complete details, qualifications to Ad No. 5397, Feedstuffs, 551 Fifth Ave., New York, N. Y.

AGGRESSIVE, REPUTABLE SALES ENGI-neer wanted for northeast Indiana territory, promoting sales and service for milling equipment to custom feed mills. Complete line of finest equipment available. Experience in feed industry and engineering preferable. Prater Pulverizer Co., 1537 South 55th Court, Chicago 50, Ill.

CONSULTING NUTRITIONIST WHO IS experienced in the nutritional development of feed ingredients. This individual would act on a consulting basis as a director of research to a feed ingredient manufacturer. Excellent financial and creative opportunity. Address Ad No. 5491, Feedstuffs, Minneapolis 40, Minn.

EXPERIENCED, AMBITIOUS, MANUFAC-turer's representative by established, expanding company. Exclusive and unusual products in animal health field. Men presently calling on dealers and distributors. Territories open in Georgia, Alabama, Louisiana, Mississippi and Texas. Write complete resume and qualifications to P. O. Box 2006, Savannah, Ga.

NATIONAL SUPPLIER TO FEED MANU-facturers offers excellent opportunity to aggressive sales representative. Salary, commission, expenses, liberal benefits, travel. Degree, knowledge of nutrition and feed formulation necessary. Location, southeastern states. Send complete resume to The Borden Co., Feed Supplements Department, 350 Madison Ave., New York 17, N. Y.

MACHINERY WANTED

ALL KINDS OF GOOD USED GRAIN processing machinery. E. H. Beer & Co., Inc., Baltimore 24, Md.

WANTED USED PORTABLE LIVESTOCK scale, Ranger or similar type. Cady Implement & Grain, Deer Grove, Ill.; Phone Tampico 172R2.

ELECTRO-MAGNET, SUSPENDED TYPE, general industrial model, rated 1045 watts, D.C. Address Ad No. 5467, Feedstuffs, 551 Fifth Ave., New York 17, N. Y.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

MISCELLANEOUS

ELEVATOR AND FEED MILL LIQUIDA-tions. Let McLaughlin, Ward & Co. handle sales of equipment in unwanted plants. None too large or too small. We will sell for you or buy outright complete plants anywhere in U.S.A. We are large handlers of grain, feed and seed equipment. McLaughlin, Ward & Co., phone State 9-8141; ask for A. L. Ward, Jackson, Mich.

BUSINESS OPPORTUNITIES

FOR SALE—TO SETTLE ESTATE, FEED plant and produce business in the heart of the Red River Valley. Incubators and other equipment can be purchased separately. Call or write George E. Sorlie, Hillsboro, N. D.

LIVE IN FLORIDA — UNIQUE OPPOR-tunity for feed business, farm store, feed mill and storage, or other similar business. We have 40x80 ft. block store building plus extra 4,000 ft. extra building space located on five points around which radius of five miles is located 19 dairies averaging 100 cows and 15 commercial poultrymen averaging 2,000 hens, in good small farm, grove and ranch area. Can also sell feed store stock and equipment. Purina and Agrico franchises available. Can offer unusual opportunity before Jan. 15. Imperial Polk Feed and Farm Supply, G. B. Justus, Manager, 320 N. Massachusetts Ave., Lakeland, Fla.

DISTRIBUTORS

Bulk Body Equipment

Reputable manufacturer of newly designed custom and bulk body equipment will announce complete line to feed and fertilizer industries through an aggressive national advertising program Feb. 1. Protected distributor franchises NOW available in certain areas. Write today for complete details to Ad No. 5472, Feedstuffs, Minneapolis 40, Minn.

FOR SALE

Feed & Grain Handling & Processing Equipment

NEW & USED

Scales, Hammermills, Feed Mixers, Sewing Machines, Elevators
Pellet Mills, and Grain Cleaners

E. H. Beer & Co., Inc. Ibsen Ave. & Newkirk St. Balto. 24, Md.

HELP WANTED

WANTED — ELEVATOR MANAGER IN irrigation district. Must have experience in feed, fertilizer and bookkeeping. Salary and commission. Write Bob Maher, Courtland, Kansas.

BULK EQUIPMENT MANUFACTURER

Manufacturer of new bulk bodies for feed, fertilizer and allied industries offers unusual sales opportunity in protected franchised territories for aggressive, experienced sales representative. Qualifications are: Knowledge of feed and fertilizer industries. Mechanical aptitude helpful. Travel required. Age to 45. Preference to applicants with two or more years' college. Include with your letter, year and make of car, experience and references. Position to be filled on or before Feb. 1. Address Ad No. 5471, Feedstuffs, Minneapolis 40, Minn.

HELP WANTED

LARGE NATIONAL GRAIN COMPANY needs man with experience in grain elevator or milling operations to assist in cost reduction studies. Knowledge and experience in time and motion study procedures essential. Please furnish complete data in first letter—personal information, education, experience, references and salary expected. Address Ad No. 5478, Feedstuffs, Minneapolis 40, Minn.

MILLING EQUIPMENT SALESMAN

Experienced sales engineer by large Southwest equipment manufacturer specializing in feed mill, cereal and processing equipment on national basis. Ready to introduce several new patented items. Car furnished, good salary and commissions. Plenty of leads, excellent territory. Best opportunity for right man. Our employees know of this ad. Give all details for personal interview. Address Ad No. 5479, Feedstuffs, Minneapolis 40, Minn.

GRAIN ELEVATOR SUPERINTENDENT

Flour and feed mill handling approximately 10,000,000 bushels grain annually, seeking elevator superintendent. Applicant must be familiar with blending, drying, fumigation, terminal elevator systems and records; also leader of men. Excellent future for qualified man capable of heavy responsibility. Southeast location.

In confidential reply, give details of work and personal background. Write Ad No. 5492, Feedstuffs, Minneapolis 40, Minnesota.

New California Dairy Feed Co-op Opens

PETALUMA, CAL.—The newly-formed Dairymens Feed and Supply Cooperative has begun producing dairy feed, after about a year of organization and plant remodeling.

The group has leased the mill and premises of the former Soren Grain and Feed Co. in Petaluma and now is producing about 400 tons of dairy feed per week. The cooperative has been in the process of formation for about a year. David Soren, former owner of the company that bore his name, is general manager of the cooperative and the mill. Mr. Soren continues to own the physical premises.

Now just being completed, the new mill includes a hopper scale, supplied by the Mill Engineering Co., Oakland; a pelleting machine, by California Pellet Mill Co.; 11 bins used for different purposes, supplied by the Butler Manufacturing Co., and a series of automatic conveyors, power shovels and a special bulk truck. Five of the Butler bins, with a 50-ton capacity each, are used to store feed ingredients; three are for the finished product, with 40-ton capacity each, and the three others, with a total capacity of 500 tons, are for incoming grain storage. The grain is blown into these bins by a special 50 h.p. blower, directly from railroad cars drawing up to the plant on a siding. Estimated investment in the expansion program is $75,000.

About 90% of the feed is sold in bulk and 10% in sacks, Mr. Soren says. There are 41 dairy farmers who are members of the cooperative located in the Petaluma area and in Napa, Tracy and Lodi districts. These farmers are the only customers the cooperative allows at present.

Washington Co-op to Distribute $2½ Million

SEATTLE, WASH.—More than $2½ million representing Washington Co-op Farmers Assn. interest checks and retirement of its 1954 issue finance fund certificates will be returned to members, Harry J. Beernink, general manager, announced.

The interest payment totals $536,000 and represents 4% annual interest on members' investment in the capital certificates.

"The retirement on Jan. 4, 1960, of $1,988,708 of finance fund certificates issued in 1954 is in keeping with the association's regular capital revolving plan of calling in the oldest outstanding year's issue as new capital is developed each year through subsequent issues," Mr. Beernink said.

The board of directors has also authorized that finance fund certificates issued from 1955 through 1959 and bearing 4% interest may be exchanged for certificates which will bear 5% interest effective Jan. 1, 1960.

Hudson Firm Names District Manager

NEW YORK—B. C. Drumm, sales manager of Hudson Pulp & Paper Corp.'s multiwall division, has announced the appointment of Robert Knight as district manager in western Missouri, Kansas and eastern Nebraska.

Mr. Knight will headquarter in Kansas City. He has had extensive experience in the multiwall industry and has sold packaging products throughout his career.

Mr. Knight is a native of Omaha, and received his education at Oklahoma A&M.

INCORPORATION FILED

FRUITA, COLO.—Sno-Crest, Inc., has filed articles of incorporation to engage in the poultry and egg business. Incorporators-directors are Don W. Dodson, Noble C. Bruster and A. V. Turner.

J. E. Elstner, Grain Inspector, to Retire

KANSAS CITY, MO. — Joseph E. Elstner will retire Dec. 31 as officer in charge of the Kansas City district of the U.S. Department of Agriculture grain inspection department after 42 years in government service.

Mr. Elstner, 64, was born in Kansas City and made his first connection with the grain business as an office boy in 1913 with Simonds-Shields Grain Co. He served as chief clerk at that company's Milwaukee elevator in Kansas City from 1914 to 1917, when he entered USDA grain inspection work at Fort Worth, Texas, as a sampler.

During his career, Mr. Elstner fulfilled assignments in Peoria, Ill., New York, Hoboken, N.J., and transferred to the Kansas City office in 1931 as assistant in general grain supervision. He was named officer in charge of the Kansas City district in 1954.

During the war years he was given a special assignment to Mexico under the direction of the Board of Economic Welfare and was responsible for the shipment of 90,000 tons of garbanzo beans to the U.S. and possessions.

Mr. Elstner is widely known in midwestern grain circles through extensive teaching of grain grading schools in Kansas in conjunction with the Extension Service, Kansas State University, Kansas Wheat Improvement Assn., Kansas State Grain & Warehouse Department and Kansas Grain & Feed Dealers Assn. He also conducted grain grading schools in Missouri and Oklahoma.

Peavey Holds Range Cattle Feeding School

HURON, S.D.—South Dakota feed dealers studied range cattle feeding at a special school here. The school was sponsored by Peavey Feed Mills, manufacturer of Tone Feeds, and was conducted by the firm's farm service staff.

The sessions emphasized range cattle feeding problems and recent developments in vitamins, minerals and other nutrients. Disease and management problems of range cattle were also featured along with beef and sheep feeding programs, beef nutrition and product control.

Attending the range cattle school were: Ernest Hoover, Winfred; Ervin Mencke, Huron; Milt Heidelberger, Madison; George W. Blune, Armour; L. D. Ball, Howard; Glenn Woelfle, Ramona; Orval Collins, Huron; William N. Zirbel, Aberdeen; H. R. Eliason, Agar; Howard Forgey, Gorman; Dan A. Junkman, Blunt; Eugene R. Cox, Wessington; Charles Conerton, Miller; Roy Hamill, Ree Heights; A. C. Stevens, Redfield; Walter Conerton, Orient; Boyd Salter, Iroquois; M. L. Gogolin, Seneca; James Hook, Huron; Melvin E. Dugdale, De Smet; Duane Schultz, Pipestone; Forrest Horn, Gann Valley; Frank Jensen, Wessington Springs; John Stahl, Doland; George Green, Redfield; Roland Crippen, Broadland; Leo Schwalm, Chamberlain, and Gale Peppers, Huron.

Feeds for Poultry Lead Delaware Mix Volume

DOVER, DEL. — Of the 467,873 tons of commercial feed reported by the Delaware State Board of Agriculture during 1958, just under 80% was listed as mixed feeds.

By far the greatest volume of mixed feeds was for poultry feeding. Medicated and nonmedicated poultry feeds totaled 340,880 tons. Another major production item for feed manufacturers was dairy feeds, which totaled 13,826 tons.

DELAWARE COMMERCIAL FEED TONNAGE REPORT

Jan. 1-Dec. 31, 1958

Kind	Tons
Alfalfa products	7,428.82
Beet pulp	1,488.00
Brewers products	1,673.30
Citrus pulp	162.00
Corn products	32,516.82
Cottonseed meal	197.00
Crab meal	217.00
Dairy feed	13,826.66
Distillers products	2,923.61
Dog and cat feed	2,837.26
Fish products	13,961.60
Goat feed	6.37
Hog and pig feed	3,166.26
Horse feed	270.25
Linseed oil meal	23.00
Meat products	6,578.55
Milk products	1,387.25
Mineral feed	5,209.67
Miscellaneous	6,888.90
Oats	876.95
Peanut feed	221.50
Pigeon feed	108.15
Poultry feed, medicated	293,777.64
Poultry feed, nonmedicated	47,102.00
Rabbit feed	231.05
Soybean meal	20,270.14
Wheat products	4,523.95
Total tons	467,873.70
Number tons tax exempt	76,005.90
Number tons tax paid on	391,867.80
Total for year	467,873.70

Superintendent Named

MEMPHIS, TENN. — Sanford M. Franklin has been appointed superintendent of the Quaker Oats Co. feed mill here. He succeeds Raymond Routh, promoted to manager of the mill.

Mr. Franklin started with Quaker Oats as a store clerk in the Memphis feed mill in 1923. He also served as foreman, production manager and general foreman before becoming assistant superintendent in 1953.

FUL-O-PEP SEMINAR—Ful-O-Pep dealers who attended a sales and research seminar, sponsored by the feed division of the Quaker Oats Co., are (left to right): Park Prange, Kirkwood, Pa.; Malcolm Fleming, San Marcos, Texas; Joe Stehr, Klingerstown, Pa.; Dick Schnittjer, Swea City, Iowa; Ernest Hanover, Armstrong, Iowa; William Ferguson, Renwick, Iowa; Owen Cox, Paris, Ill.; H. D. Black, Rockwell City, Iowa; Bob Temple, Fulton, Ill.; Norman Hutchinson, Murfreesboro, Tenn.; Roger Kerr, Wichita Falls, Texas; Bruce Van Herzeele, Atkinson, Ill.; Bernard Rowley, McCook, Neb.; Tom Jeter, Eagle Pass, Texas; Gene Field, Dickson, Tenn.; C. L. Enderson, Hubbard, Iowa, and Earl Gun, Washta, Iowa. C. W. Barnstable, Nokomis, Ill., also attended the seminar but was unable to be present when the photo was taken.

Ful-O-Pep Sponsors Dealers' Seminar

CHICAGO, ILL. — Eighteen Ful-O-Pep dealers took time out from a week-long sales and research seminar, sponsored by the feed division of The Quaker Oats Co., to enjoy a chicken barbeque while touring the company's poultry research farm.

The seminar, held at the Hotel Moraine, Highland Park, Ill., was divided between classroom study and organized tours of The Quaker Oats Co.'s research farms and laboratory.

During the classroom sessions, the dealers heard I. S. Riggs, vice president of feed sales, and J. C. Huckabee, general sales manager, discuss the important role the dealers will play in the future of feed sales. John Emery, general credit manager, spoke on business administration and successful credit management, while A. A. Dennerlein, manager of feed advertising and merchandising, presented a merchandising program tailored to the individual feed store. Norman Smith served as coordinator of the seminar and also conducted sessions on sales techniques.

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Processors of DRIED FISH SOLUBLE PRODUCTS
A "MUST" IN EVERY SWINE OR POULTRY RATION
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Dehydrated Alfalfa will boost the value of your feeds with high quality protein, all important vitamins and minerals . . . PLUS . . . Xanthopylls for better pigmentation and Unidentified factor(s) for growth promotion.
MEMBERS THROUGHOUT THE NATION TO SERVE YOU
AMERICAN DEHYDRATORS ASSOCIATION
430 BOARD OF TRADE, KANSAS CITY, MO.
ADA American Dehydrators Association
PASTURE IN THE BAG

The Weigh-Burro bulk scale is self-discharging, rugged, durable. Easy rolling wheels. Scale cap. 1000 lbs. Price only $295. Order by collect wire today.
BURROWS
Burrows Equipment Company
Sherman Ave., Evanston, Ill.
Only $295

DOING SPECIAL JOBS WELL
PAXCO DEHYDRATED CORN COB MEAL is doing some special jobs especially well — in sheep pellets, in dairy feeds, in beef cattle rations, as a molasses carrier. Special grind for each of these special purposes. Write today to:
PAXTON PROCESSING CO., INC.
P.O. Box 120 Phone 222 Paxton, Illinois

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for vitamins
Hoffman-Taff Inc.
SPRINGFIELD, MISSOURI

GIVE YOUR FEEDS A LIFT!

Blackstrap molasses is your most economical source of carbohydrates *plus*. You should be using more molasses in more formulas. The very best blackstrap comes from . . .
NATIONAL MOLASSES COMPANY
Executive Offices: ORELAND, PA.
Phone: Livingston 8-5900 (Philadelphia)

"JUST ASK FOR BILL"

-or Stan, Ralph, Harold, Frank,
Mart, Henry, Don or Howard

EACH KEY DEHYDRATOR is on a "first name" basis with his customers — because each Key firm is owned and operated by one Key individual who personally supervises every operation from seeding to shipment. In many cases, Key Dehydrators actually own or lease the land on which the crop is grown—often help to design and build the equipment used for processing and storing meal. Moreover, all Key Dehydrators have complete facilities for gas storage, automatic blending, oil treatment, pelleting, grinding and bulk shipment. Give us a call—just ask for Bill, Stan, Ralph, Harold, Frank, Mart, Henry, Don or Howard.

KEY

INDEPENDENT

Alfalfa Dehydrators

Al-Fa Meal Co.
W. H. "Bill" Smith
Columbus, Nebraska

Beermann Bros. Dehy
Ralph Beermann
Dakota City, Nebraska

Central Alfalfa, Inc.
E. T. "Don" Ruppe
Lexington, Nebraska

Dehy Alfalfa Mills, Inc.
Howard Rhea
Fremont, Nebraska

F. J. Higgins Milling Co.
F. J. "Frank" Higgins
Schuyler, Nebraska

Gothenburg Feed Products Co.
W. H. "Bill" Healy
Gothenburg, Nebraska

Hanna & Lamb Milling Co.
Harold Hanna
Gothenburg, Nebraska

Iowa Valley Milling Co.
Harold Spencer
Iowa City, Iowa

Kaw Dehydrating Co., Inc.
Bill Bunten
Topeka, Kansas

Prairie Dehydrating Co.
Stan Hodel
Roanoke, Illinois

Progress Products Co., Inc.
Mart Trued
Overton, Nebraska

Sioux Alfalfa Meal Co.
Henry Moeller
Vermillion, South Dakota

Trico Feed Mills
Howard Clark
Minden, Nebraska

Wraybill Dehydrating Co., Inc.
Bill Buser
Sloan, Iowa

Increased Savings, Feed Expansion Plans Reported by GTA

ST. PAUL — The second largest savings in the co-op's history and plans for expansion in the feed business were reported at a stockholders' meeting of the Farmers Union Grain Terminal Assn. here.

M. W. Thatcher, general manager, said that the grain and feed cooperative increased its savings by more than $500,000 during the 1958-59 fiscal year. He said the co-op would distribute savings of $4,052,722 from operations during the business year ended May 31. This total was topped only by 1946-47, when the total was $4,663,000.

Here's how Mr. Thatcher said the savings would be distributed: In cash —$769,940; capital equity (stock) certificates — $2,695,137; capital reserve allocated to patrons—$385,009, and educational funds to Farmers Union state organizations—$202,636.

"GTA now has a net worth of more than $42 million and handles some 30% of the grain shipped to market from the Upper Midwest," Mr. Thatcher stated.

GTA expanded in the feed business last year and this operation "has potential beyond our imagination," said Mr. Thatcher.

"Within 10 years, our members will be as concerned with GTA's big feed and supply business as they are about grain marketing," he predicted.

"We are making a thorough study of the importance of strategically located small feed plants over the northwest. The management envisions a series of these small modern mills."

Firm Making Enzyme Silage Preservative

CHICAGO, ILL.—A new silage preservative, its action based upon enzyme fermentation, is to be introduced by Taste Engineering, Inc., Chicago, next spring.

Company officials said silage studies, showing that enzymes are the primary agent in silage fermentation, led to development of the preservative to be marketed under the name of Silage Zest.

The preservative is a dry, meal-like material and will be sold in bags for mixing with silage at the silo or as it is blown into the wagon. "The material improves both grass and corn silage by reducing spoilage, promoting uniform curing and improving odor and palatability," Taste Engineering officials said.

The Taste Engineering announcement said Silage Zest is a fermentation of sugars under controlled conditions. This fermentation produces end-preserving materials which can be added to silage as it is being made.

"If this material is added at the outset instead of allowing unfavorable organisms to develop over the longer natural ensiling process, much improved silage will result," company officials stated. "The same material will stimulate the growth of yeasts and allow the more favorable reactions to take place without the ill effects by the older method."

Taste Engineering plans to market Silage Zest through distributors.

Heads Feed Meeting

PORTLAND, ORE.—The appointment of H. Dick Cook, Cook-Fredricks Co., as general convention chairman for the 1960 annual meeting of the Oregon Feed & Seed Dealers Assn., has been announced by Fenn Emerson, president. The convention will be held March 17-18 in the new Sheraton Hotel here.

Mr. Cook succeeds J. C. (Red) Jones, who requested of the association board of governors that he be relieved of his duties due to poor health.

The new general convention chairman is a past member of the board and served one term as treasurer.

The club bore was boasting of his ability to distinguish between different beverages. Finally one of the listeners took a flask from his pocket and asked the connoisseur to taste it and tell him what it was. The man took a mouthful and promptly yelled, "Great Scott, that's gasoline!"

"I know," came the curt reply, "but what brand?"

◆ ◆ ◆

In a Western cowtown an old man was walking by a saloon when, without warning, a young cowhand dashed out, took a flying leap from the sidewalk and landed on the seat of his pants in the gutter.

The man hurried over to him. "Are you hurt?" he asked.

"No," was the angry reply, "but I'd shore like to meet the so-an-so who moved my horse."

◆ ◆ ◆

A frightened householder reported to the police that he'd been struck down in the dark outside his back door by an unknown assailant. A young policeman was sent to investigate and soon returned to headquarters with a lump on his forehead and a glum look on his face.

"I solved the case," he muttered.

"Amazingly fast work," his superior complimented him. "How did you accomplish it?"

The young cop explained, "I stepped on the rake, too."

◆ ◆ ◆

A guy walked into a bar wearing a black silk suit, black patent leather shoes, a black turtleneck sweater, pearl earrings, and a nine-strand pearl necklace.

He had himself a pink lady, drank it and departed. Another customer said to the bartender: "Did you get a load of him?"

"What about him?" asked the bartender.

"My gosh," the guy said, "a black silk suit, black patent leather shoes, a black turtleneck sweater, pearl earrings and a nine-strand pearl necklace!"

"So?" said the bartender. "And what else could you wear with basic black?"

BEFORE
I'm the life of the party since I started on feeds with SUCRO-FLAVOR
TRADEMARK
AFTER
FLAVOR CORPORATION OF AMERICA
3037 North Clark Street • Chicago 14, Illinois

CHEMELL

(Continued from page 4)

may be that little of this equipment is idle, if chick placements are accurate, since these reports have not indicated a sudden drop which might be accounted for by the Chemell shutdown.

Credit Tightens

Chief effect on the industry has been tightening credit controls. However, there was a strong indication restrictions were coming several months before Chemell sought court relief. In fact, in his original petition, Mr. Chemell said credit restrictions by bankers and feed manufacturers necessitated the moratorium while he reorganized.

Spokesmen for the creditors committee have insisted that the Chemell fiasco could not be attributed to the broiler industry itself as a mismanaged or disorganized industry. And discussion during the early hearings indicated that few of the creditors involved felt that Chemell's possibility of going broke would have too many direct repercussions in the industry.

Observers noted one point throughout the early efforts to reorganize, the later tasks of foreclosing and liquidating the corporations—no direct effort was made by any of the feed companies, with unsecured claims totaling millions, to take over and continue to operate what was rated the world's largest hatching business.

Some poultrymen have expressed the opinion that tighter vertical integration of the broiler industry, with control of production and marketing in the hands of the major feed companies, is only a matter of time.

Yet none of these firms apparently made a move in that direction by going into the hatching business.

One thing was obvious from the start—none of the banks had ambitions to go into the poultry business as flocks were liquidated as quickly as was economically sound. And it is apparent, too, that some of the banks learned that they had loaned money far in excess of the value of the birds as collateral.

Egg-Type Chicks

Another factor, not too apparent, was the stoppage of hatching chicks for layer flocks. The Chemell, Inc., operation was just that and efforts were made to sell baby chicks for commercial egg production the year round, instead of following the accepted seasonal demands.

Most of these flocks were financed by Talcott, Inc., a New York factoring firm, and have been liquidated gradually under foreclosure. Since the hatching of chicks for these flocks has ceased, there apparently will be no glut of the market as was once thought to be possible.

Conservative estimates of the potential egg production from these flocks, many of them in south Georgia, were around 20,000 cases of eggs per week—ample to affect the commercial egg market when seasonal demand was declining.

On the other hand, it is more likely these flocks never came into peak production since there are few reliable reports to indicate the local egg markets were being flooded. Probably many of these hens have been sold as meat birds since securing feed on credit, either through banks or feed manufacturers, is no longer a simple matter.

Branching Out

Major long-run effect, as far as feed manufacturers are concerned, is likely to be a branching out into other types of livestock feeding—hogs, dairy and beef cattle—on some sort of contract or integrated plan.

One large mill already has moved into the production of beef cattle rations and an official of that company indicated the production was a shift rather than an increased tonnage operation.

Another mill, holding a good-size unsecured Chemell account, has moved into the commercial egg business and there are indications this firm will spread out throughout the Southeast.

Stepped up hog feeding, not only on the perimeter of the broiler areas but also within it, too, has been noted for quite some time, with steady flow of hogs into southern markets an indication of how extensive this business has become. Some feed companies are actively engaged in several phases other than feed sales alone.

One thing is certain—that large bag, filled with unsecured claims for millions, is being held by a lot of people, and their chances of getting anything back are as remote as the Dodgers moving back to Brooklyn.

AFMA Nutrition Council Elects New Members

CHICAGO—Election of eight new members, approval of a new set of uniform management recommendations for beef cattle, development of four new purchasing guides for feed ingredients and two scientific papers on use of radioactive tracers, were highlights of a recent meeting of the American Feed Manufacturers Assn. nutrition council.

Newly elected members to the council were: Dr. Stan M. Aldinger, director of research, Yoder Feeds, Inc., Kalona, Iowa; Dr. Roy O. Baker, nutritionist, Rath Packing Co., Waterloo, Iowa; Jack Cooper, director of research, O. A. Cooper Co., Humboldt, Neb.; Leroy F. Nelson, director of research, Walnut Grove Products Co., Atlantic, Iowa; Milo Prochazka, director of research, Maritime Milling Co., Buffalo, N.Y.; Dr. Ralph P. Soule, Jr., director of nutrition, Farmers Union Grain Terminal Assn., St. Paul, Minn.; John P. Weeks, director of research and education, Cosby-Hodges Milling Co., Birmingham, Ala., and Kenneth N. Wright, director of feed nutrition, A. E. Staley Mfg. Co., Decatur, Ill.

This brings the total number of men serving on the council to 93. Seventy-three AFMA feed manufacturing companies have active members on the council, there are four life members, two ex-officio members and 14 members who represent allied industry associations.

Twenty-three standardized management recommendations for growing and finishing beef cattle in dry lot were approved by the council. This approval came after an intensive development program by the council's management survey committee during the past two years and repeated checking with the industry, U.S. Department of Agriculture and each of the 48 land-grant colleges and experiment stations. The recommendations are now being printed in leaflet form and soon will be offered for sale to feed manufacturers at 2½¢ each.

Purchasing Guides

New purchasing guides were developed by the council's ingredients committee and approved by the entire group. The guides will cover specifications for hydrolyzed poultry feathers, linseed oil meal, flaxseed screenings oil feed and brewers dried yeast. The guides are being printed and will be sent to all AFMA members, as well as to the 500 purchasers of the original AFMA publication, "Feed Ingredient Purchasing and Trade Rules Guide."

Two research papers were presented at the nutrition council's semi-annual meeting. They were, "The Use of Radioactive Tracer Techniques in Animal Nutrition Research," by Dr. Allen D. Tillman, Oklahoma State University, and, "The Use of Radioactive Tracer Techniques in Feed Quality Control," by Dr. George K. Davis, University of Florida. Both papers will be reported to AFMA members in the council's proceedings, now being printed.

All of the council's committee chairmen presented reports of their work during the past six months; these reports will also appear in the printed proceedings.

Reports were presented by: Dr. H. R. Stiles, National Oats Co., East St. Louis, Ill., ingredients; Dr. S. M. Weisburg, National Dairy Products Corp., Glenview, Ill., research; Dr. E. I. Robertson, John W. Eshelman & Sons, Lancaster, Pa., resolutions; Dr. Robert Ahlin, Doughboy Industries, New Richmond, Wis., nutrition application; Robert L. Vohs, Ames Reliable Products Co., Ames, Iowa, management survey; Dr. L. M. Dansky, Samuel Lipman Sons, Augusta, Maine, quality control; Dr. W. H. Burkitt, Montana Flour Mills Co., Great Falls, Mont., veterinary relations, and A. W. Koon, Spartan Grain & Mill Co., Spartanburg, S.C., education.

The council's meeting was planned by Dr. J. W. Hayward, Archer-Daniels-Midland Co., Minneapolis, chairman of the program committee, and was presided over by the chairman of the AFMA nutrition council, Dr. R. E. Ward, Eastern States Farmers Exchange, West Springfield, Mass.

Researchers Announce New Mastitis Vaccine

NEW YORK—A new vaccine for the control of staphylococcal mastitis has been developed by Dr. Lawrence W. Slanetz and associates at the University of New Hampshire. It is being manufactured by American Cyanamid Co., New York, and will be available Jan. 4 to the veterinarians under the name of Staphylococcus Aureus Toxoid (Slanetz Strain No. 7).

With an estimated $250 million loss annually from mastitis, dairymen are expected to benefit from the new vaccine because it offers them a practical method for controlling the previously hard-to-treat mastitis infections caused by the organism, staphylococcus aureus, researchers said.

According to Dr. Slanetz, a dairy herd may be maintained comparatively free and immunized to staphylococcal mastitis by vaccinating all cows with two shots of the staphylococcus toxoid spaced a month apart. From then on, one vaccination a year will be required to continue the immunity.

Dr. Slanetz and his associates perfected the new mastitis vaccine after five years of tests in a dairy herd of 160 cows. Supporting these studies were field tests on dairy farms conducted by the University of New Hampshire and Cyanamid.

10 S.D. Counties Emergency Areas

WASHINGTON—True D. Morse, acting secretary of agriculture, designated 10 stricken counties in South Dakota as emergency areas where farmers and stockmen can buy government-owned feed at current support prices.

This is the first designation under PL 86-299, which was enacted during the last session of Congress.

The designated counties are Brown, Day, Clark, Codington, Faulk, Hyde, Potter, Spink, Sully and Marshall.

Public Law 86-299 authorizes the secretary to sell at current support prices any wheat, corn, oats, barley, rye or sorghum grains owned by the Commodity Credit Corp. to provide feed for livestock where he determines there is an emergency area as defined in the law.

The law specifies that feed sales may be made only to persons who don't have adequate feed and are unable to obtain enough through normal trade channels without undue financial hardship. The recipient must agree to use the feed only for his own livestock.

FDA Issues Orders On 2 Feed Additives

WASHINGTON—The Food and Drug Administration has issued two new orders under food additive provisions of the food and drug law. They cover an antibiotic and an antioxidant used in feed.

The new orders cover use of Monsanto Chemical Co.'s Santoquin brand of ethoxyquin (1,2-dihydro-6-ethoxy-2,2,4-trimethylquinoline) in additional forage crops and poultry feeds, and manganese bacitracin, produced by Grain Processing Corp., Muscatine, Iowa, in swine and chicken feed.

The Santoquin order broadens two previous orders for this antioxidant. It extends use in certain corn, sorghum and sudan grass forage crops. It also expands use in poultry feeds to retard oxidation of both added and naturally occurring vitamins A and E.

The manganese bacitracin order allows use of the antibiotic in chicken and swine feed up to an amount equivalent to 11 p.p.m. of bacitracin master standard. A zero tolerance is set for residues of the drug in eggs and in meat from chickens and swine.

The order points out that manganese bacitracin is intended for use solely as an aid in stimulating the growth and improving the feed efficiency of chickens and swine.

Georgia Poultry Workshops Held

ATHENS, GA.—Several poultry workshops are currently being held by Georgia poultry industry leaders for servicemen and management personnel. (Also see earlier story in Feedstuffs Dec. 12.)

The workshops are aimed at developing and putting into practice a set of "minimum standards," according to Milton Y. Dendy, Georgia extension poultryman and secretary of the poultry workshop committee.

The first workshop, held at Gainesville, included the presentation of facts and figures on condemnation losses and a discussion of management practices. Some 100 servicemen, dealers, growers and others were present.

Al Gibson, secretary of the Georgia Poultry Federation, told the Gainesville group that the purpose of the workshop was to promote "producing healthier poultry and avoiding high rates of condemnation under federal inspection."

Dr. John Turner, Federal Inspection Service, said that the main causes for condemnation were inflammations of the air sacs. He also showed specimens of condemned birds.

Other speakers at the meeting included Dr. J. Clyde Driggers, University of Georgia; Dr. Sam Schmittle, Georgia Poultry Disease Research Center, and Milton Dendy, extension poultryman.

The second workshop was held Dec. 21 in the Davis Restaurant, Athens. Other workshops scheduled include the following: Douglas, Jan. 4; Cumming, Jan. 6; Cedartown or Carrollton, Jan. 7; Dalton, Jan. 12, and Canton, Jan. 19.

Speakers at Gainesville emphasized the importance of measures to prevent respiratory ills and stressed good management practices.

As a result of the workshop discussions, suggestions on facilities and management practices are being developed.

NEW ASSOCIATION OFFICES

DES MOINES—The National Feed Ingredients Assn. will move into new offices at 1023 Equitable Building Jan. 1 and will have a new telephone number—ATlantic 3-1597, it was announced this week by Mrs. Dorothy Stillman, assistant secretary.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

A AND D FEEDING OIL

Boston: Demand and supply steady; 400 D, 3,000 A 21½¢; 300 D, 3,000 A 21¢; 300 D, 2,250 A 19½¢; 300 D, 1,500 A 18¢; 75 D, 750 A 15½¢.

Denver: Demand fair; trend steady; supply ample; 2,250 A, 300 D 22¢ lb., f.o.b. Denver.

Minneapolis: Demand fair; supply ample; 10,000 A 32¢ lb.; 300 D, 2,250 A 16¾¢ lb.; 300 D, 1,500 A 15½¢ lb.; 300 D, 750 A 14¢ lb.

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55-gal. drums, f.o.b. Chicago, drums included.

ALFALFA MEAL

Philadelphia: Demand and supply fair; 17% dehydrated $69.

Omaha: Demand slow; trend steady; supply ample; 17% dehydrated, 100,000 A units, bulk pellets $52; sacked meal $57, Omaha basis.

Boston: Demand slow; supply ample; dehydrated, 17% $65@66; suncured, 13% $44.

New Orleans: Demand fair; trend unchanged; supply adequate; 17% protein, 100,000 vitamin A, bulk $65@66, sacked $70@71.

Memphis: Demand fair; trend steady; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $65.

Ft. Worth: Demand fair; supply sufficient on dehydrated, light offerings of suncured; sacked, dehydrated, 17%, 100,000 A $67.80 rail, $66 truck; suncured, 13% ¼-in. grind No. 1 $47@50, truck or rail.

Denver: Demand fair; trend steady; supply ample; $52, sacked meal; $50, bulk pellets.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $64, pellets.

Seattle: Demand fair; trend steady; supply good; 15% protein suncured $45, sacked, delivered truck loads; 136,000 A unit dehydrated $68, sacked, delivered truck loads.

Chicago: Demand good; trend higher for 17%; supply fair; 17% dehydrated, with 100,000 units vitamin A guaranteed $60.50 @61.50; 13% suncured $21.50@43.50.

Los Angeles: Demand good; trend firm; supply ample; dehydrated meal, 17% protein, 100,000 $53; dehydrated pellet meal, 17% protein, 100,000 A $55; suncured meal, 15% protein $48@49; suncured crumbles, 15% protein $50@51.

Minneapolis: Market slightly stronger but showing signs on easy side; 17% dehydrated, 100,000 units vitamin A reground pellets $60; oiled reground pellets $62, sacks $4 more.

Portland: Demand good; supply ample; trend unchanged; suncured 15% $50; dehydrated $67.40.

Buffalo: Demand and supply fair; trend steady; $73.50, sacked, Boston.

St. Louis: Demand fair; trend firm; supply limited; suncured, 13% fine, sacked $46; dehydrated, 17%, 100,000 pellets, demand slow, trend easier, supply ample, bulk $57.50.

ANIMAL FAT (STABILIZED)

Ogden: Supply average; $5.50 cwt.

New Orleans: Demand fair; trend easy; supply adequate; 6@6½¢ lb., tank cars.

San Francisco: Demand fair; supply ample; bleachable fancy 6¼¢ lb.; yellow grease 5¢ lb.

Ft. Worth: Demand fair; supply scarce; prime tallow, tank cars 5⅝@5¾¢ lb.; drums 8¼¢@8¾¢ lb., f.o.b. north Texas packing plants with returnable drums.

Boston: Demand slow; supply ample; tallow 6¼¢ lb.; yellow grease 5¢ lb.

Louisville: Demand slow; trend steady; supply good; bleachable white 5¾¢ lb., white tallow 6¼¢ lb., yellow grease 5⅝¢ lb., all in tanks.

St. Paul: Market still steady; demand holding up fairly well, a bit better than some expected; supply still ample; 5⅝¢ lb., f.o.b. producer's plant.

Chicago: Demand good; trend steady; supply fair; tank truck or car lots, bleachable fancy tallow $5.62½ cwt.; yellow grease $5.50 cwt.

Atlanta: Demand good; trend steady; supply limited; 5¢ lb., f.o.b. Georgia and Alabama producing mills.

BARLEY FEED

Philadelphia: Demand slow; supply fair; $42.

Ogden: Supply normal; rolled $47@52; whole barley $42@47.

Boston: Demand very slow; supply light; $41.

New Orleans: Demand slow; trend unchanged; supply ample; $51@52, sacked.

Denver: Demand good; trend firm; supply ample; rolled $2.05 cwt.

San Francisco: Demand fair; supply ample; rolled $61, ground $60, both sacked.

Seattle: Demand fair; trend steady; supply good; $48, truck lots, new crop.

Chicago: Demand good; trend higher; supply fair; $37, sacked.

Baltimore: Demand good; trend higher; supply fair; $47.50, sacked.

Los Angeles: Demand fair; trend unchanged; supply ample; standard rolled $3 cwt., standard ground $3 cwt., both sacked.

Portland: Demand slow; supply ample; trend unchanged; rolled $53; ground $51.

BENTONITE (SODIUM)

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50, less than carlots $40; 200 mesh fine $31, less than carlots $40.

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

Denver: Demand fair; trend steady; supply ample; $24.50, f.o.b. Denver.

Chicago: Demand fair; trend steady; supply ample; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots, 80 granular $13.50 net; 200 mesh, fine $13.25 net.

BLOOD FLOUR

Louisville: Demand good; trend steady; supply good; $82.50@87.50, sacked.

BLOOD MEAL

New Orleans: Demand dull; trend steady; supply ample; $90@95.

Ogden: Supply average; $92.50 ton in 100-lb bags, f.o.b. Ogden.

Omaha: Demand good; trend strong; supply limited; 80% $95, sacked, Omaha basis.

San Francisco: Demand fair; supply ample; $6 a unit of ammonia.

Louisville: Demand slow; trend firm; supply good; $82.50@87.50, sacked.

Chicago: Demand and supply fair; trend steady; guaranteed 80% protein $115, sacked.

Los Angeles: Demand slow; trend unchanged; supply ample; $5.50 a unit of ammonia, sacked.

BONE MEAL (STEAMED)

Boston: Demand steady; supply light; $105, sacked.

Ft. Worth: Demand good; supply light; $90, sacked, f.o.b. Ft. Worth, local manufacture.

New Orleans: Demand fair; trend easy; supply ample; $90@95.

San Francisco: Demand good; supply ample; $75, sacked.

Cincinnati: Demand fair; trend steady; supply fair; $105, sacked, Cincinnati.

Denver: Demand fair; trend steady; supply ample; $109.

Louisville: Demand slow; trend steady; supply light; $82.50@87.50, sacked.

Seattle: Demand good; trend firm; supply limited; $90, sacked, ex-dock.

Chicago: Demand good; trend firm; supply fair; $100, sacked.

Los Angeles: Demand and trend steady; supply light; imported $81, 20-ton lots, sacked.

Portland: Demand good; supply ample; trend unchanged; $99.

Buffalo: Demand good; trend steady; supply limited; $105, sacked.

BREWERS DRIED GRAINS

New Orleans: Demand fair; trend steady; supply good; $51@52, sacked.

Ft. Worth: Demand fair; supply sold out for December; 26% protein $61.90, January-February.

Milwaukee: Demand good; supply fair; $53.50, sacked; $45.50, bulk.

Boston: Demand good; supply spotty; 26% $57, 22% $59, both sacked.

Philadelphia: Demand and supply fair; $58.

San Francisco: Demand fair; supply ample; $54, sacked.

Cincinnati: Demand poor; trend steady; supply somewhat limited; $52.

Louisville: Demand slow; trend steady; supply good; $50.45.

Chicago: Demand fair; trend firm; supply ample; $46.50.

Los Angeles: Demand slow; trend steady; supply adequate; $50.

Buffalo: Demand and supply fair; trend steady to lower; $55.50, Boston.

St. Louis: Demand good; trend steady; supply light; $45.

BREWERS DRIED YEAST

Denver: Demand light; trend steady; supply ample; 5¢ lb., f.o.b. Golden, Colo.

Boston: Demand and supply steady; 10¢ lb.

San Francisco: Demand and supply good; 10¢ lb.

Omaha: 10½¢ lb.

Cincinnati: Carlots 11¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

Louisville: Demand slow; trend steady; supply good; 10@10¼¢ lb., sacked.

Seattle: Demand slow; trend steady; supply ample; $12 cwt., sacked.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9¾@12¼¢ lb., l.c.l.

Milwaukee: Demand fair; trend steady; 10¼@12¼¢ lb., ton lots.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11⅛¢ lb., less than ton lots.

Los Angeles: Demand slow; trend unchanged; supply adequate; 10¢ lb., 5-ton lots; 11¢ lb., 1-ton lots; 12¢ lb., less than ton lots; all sacked.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., all sacked, f.o.b. New Jersey.

Portland: Demand good; supply ample; trend unchanged; 8½¢ lb.

Buffalo: Demand good; trend slightly firmer; supply steady; $9.75 cwt.

BUTTERMILK (CONDENSED)

Philadelphia: Demand slow; supply light; $4.25 cwt., drum.

Ogden: Supply normal; $4.40, 100-lb. drum.

Boston: Demand and supply steady; 3.95¢ lb., drum.

New Orleans: Demand slow; trend unchanged; supply adequate; $4@4.10 cwt.

San Francisco: Demand fair; supply good; $5 cwt.

Louisville: Demand slow; trend steady; supply light; $4.25 cwt.

Chicago: Demand good; trend firm; supply fair; $3.50@3.75 cwt., in barrels.

Los Angeles: Demand slow; trend unchanged; supply ample; 5½¢ lb., 100 lb. lots in barrels; 4½¢ lb., 500-lb. lots in barrels.

CALCITE CRYSTALS AND FLOUR
(All prices net, sacked, including freight)

New York: Crystals $16.28, flour $10.28.
Buffalo: Crystals $17.11, flour $11.11.
Toledo: Crystals $18.96, flour $12.96.
Boston: Crystals $17.63, flour $11.63.
Lime Crest, N.J.: Crystals $11.50, flour $5.50.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, sacked.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100-lb. bags $9.54; bulk, in hopper cars $7.54; bulk, in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50-lb. bags $12.25, 100-lb. bags $11.50; bulk, boxcar $10; bulk, hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

Los Angeles: Demand slow; trend unchanged; supply ample; flour $10.15, 20-ton cars, sacked; meal $11.15, 20-ton cars, sacked.

CHARCOAL

Boston: Demand and supply steady; $110.

San Francisco: Demand steady; supply ample; $141.

Chicago: Demand fair; trend firm; supply fair; 50-lb. multiwalls $110.

Los Angeles: Demand fair; trend steady; supply adequate; hardwood poultry: $156, sacked, less than ton lots; $144.40, sacked, ton lots.

COCONUT OIL MEAL

San Francisco: Demand good; supply tight; $67.50.

Seattle: Demand fair; trend firm; supply limited; $84, delivered, truck, sacked.

Los Angeles: Demand slow; trend unchanged; supply tight; copra cake $78@79, nominal.

Portland: Demand slow; supply ample; trend unchanged; $78.50.

COD LIVER OIL (FORTIFIED)

Boston: Demand and supply steady; 300 D, 3,000 A 22¢ lb.; 600 D, 2,250 A 20½¢; 300 D, 2,250 A 20¢; 600 D, 1,500 A 19¢; 30 D, 1,500 A 18½¢.

CONDENSED FISH SOLUBLES

Boston: Demand and supply steady; 4¾¢ lb., sacked.

New Orleans: Demand light; trend easy; supply fair; $47.50@48, f.o.b. Gulf.

Denver: Demand poor; trend steady; supply ample; dried $147, Denver.

Los Angeles: Demand slow; trend steady; supply ample; 3¢ lb.

CORN GLUTEN FEED AND MEAL
(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $54.90, meal $68.90.
Atlanta: Feed $60.98, meal $74.98.
Birmingham: Feed $59.64, meal $73.54.
Boston: Feed $59.84, meal $73.84.
Chicago: Feed $48, meal $62.
Cleveland: Feed $56.14, meal $70.14.
Denver: Feed $58.51, meal $72.51.
Ft. Worth: Feed $56.96, meal $70.96.
Indianapolis: Feed $53.36, meal $67.36.
Kansas City: Feed $48, meal $62.
Louisville: Feed $55.21, meal $69.21.
New Orleans: Feed $58.20, meal $72.20.
New York: Feed $60.43, meal $73.43.
Norfolk: Feed $58.71, meal $72.71.
Philadelphia: Feed $59.02, meal $73.02.
Pittsburgh: Feed $56.96, meal $70.96.
St. Louis: Feed $48, meal $62.
Decatur, Ill.: Feed $41.75, meal $58.75.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $47.

Louisville: Demand slow; trend steady; supply normal; $50.45.

COTTONSEED OIL MEAL

Memphis: Demand poor; trend lower; supply ample; prime 41% protein, old process $59.60; new process, 41% solvent $58.

Omaha: Demand slow; trend easy; supply ample; 41% solvent $67.70, delivered Omaha.

New Orleans: Demand good; supply ample; trend steady; $72.50@73.50.

Ft. Worth: Demand fair; trend of forward positions weaker; supply sufficient; 41% old process $69, immediate; solvent 1% fat added $67, immediate; $65, January-February-March; pellets $2 additional; cottonseed hulls $14@16.

Ogden: Supply average; 41% $75@80.

Boston: Demand spotty; supply adequate; $83.

Philadelphia: Demand and supply fair; $74.

San Francisco: Demand good; supply tight; 41% $69; 44% $76.

Cincinnati: Demand poor; trend steady; supply somewhat limited; $68.

Louisville: Demand slow; trend easy; supply good; old process $65; new process $63.

Denver: Demand fair; trend steady; supply ample; 2% $69.40, Denver.

Seattle: Demand good; trend firm; supply limited; $80, delivered truck lots, 41% expeller process.

Wichita: Demand good; supply sufficient; 41% old process $77, sacked.

Chicago: Demand fair; trend easier on old process, steady on solvent; supply adequate; Memphis basis: hydraulic $59, solvent $59.50.

Los Angeles: Demand fair; trend unchanged; supply ample; $70@72.

Atlanta: Demand fair; trend weak; supply good; 41% $65, f.o.b. Georgia; $63, f.o.b. north Alabama producing mills.

Portland: Demand slow; trend lower; supply ample; $75.

Buffalo: Demand poor; trend steady; supply adequate; $87, sacked, Boston.

St. Louis: Demand slow; trend steady; supply ample; solvent $63.

D ACTIVATED ANIMAL STEROL (POWDERED)

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 10¢ lb., warehouse.

D ACTIVATED PLANT STEROL (POWDERED)

Chicago: Demand fair; supply ample; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12% $53, f.o.b. Tupelo in 100-lb. multiwall bags, $50 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $71.80 (or $3.99 per unit of P), f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Coronet, Fla.: Carload, bagged $66.25 and bulk $63.25; truck load, bagged $67 and bulk $64, f.o.b. Coronet, Fla.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $74.35 net ton, f.o.b. Houston; 100-lb. multiwall bags $71.35, bulk.

Cincinnati: 18% phosphorus $81.02; 13% phosphorus $63.96, f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Trenton, Mich.: 18½% P $83, bulk, boxcar/hopper car; $86, bagged, in carloads or truckloads; $96, bagged, in less than carload lots; 21% P, $94.65, bulk, boxcar/hopper car; $97.65, bagged in carloads or truckloads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $86 (or $4.65 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices: for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Chicago: Bulk 18.5% phosphorus, carlots or trucks $83; 20,000 lb. or more $86 net ton in 100-lb. papers; less than 20,000 lb. $96, basis Chicago Heights, Ill., or Nashville, Tenn.; 21% phosphorus, carlots or trucks, bulk $94.65; 20,000 lb. or more, per net ton in 100-lb. papers, $97.65 and less than 20,000 lb., $107.65, basis Chicago Heights, Ill., or Nashville, Tenn.

Columbia, Tenn.: Minimum phosphorus 18¼%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Carload and truckload, bagged $80.50, bulk $77.50, f.o.b. Texas City, Texas.

Portland: Demand slow; supply ample; trend unchanged; $112.

Cincinnati: 18½% phosphorus $92.15, f.o.b. Cincinnati.

Denver: Demand fair; trend steady; supply ample; $95.80, f.o.b. Denver.

DISTILLERS DRIED GRAINS

San Francisco: Demand fair; supply ample; solubles $85, sacked.

Philadelphia: Demand slow; trend unsettled; supply light; $67.

Cincinnati: Demand poor; trend steady; supply adequate; $53@54.

Boston: Demand fair; supply tight; dark and medium dark $60.

Louisville: Demand fair; trend easy; supply good; production increasing; bourbon: light $53.50, dark $58.50, solubles $77.

Seattle: Demand good; trend firm; supply limited; $68.50, delivered, truck lots, sacked.

Buffalo: Demand good; trend steady to higher; supply fair; $65, bulk, Boston.

DRIED BEET PULP

Boston: Demand and supply steady; $51, sacked.

Ft. Worth: Demand slow; supply sufficient; 50 lb. papers $51.70, December; $55.70, January-June, delivered Ft. Worth.

San Francisco: Demand good; supply fair; $45.20.

Denver: Demand excellent; trend very strong; supply slightly shorter; $32.50, Denver.

Milwaukee: Demand good; supply fair; plain $43.50, molasses $43.50, both sacked.

Ogden: Supply normal; $41@46.

New Orleans: Demand fair; trend steady; supply adequate; $51@52, sacked, carlots.

Seattle: Demand good; trend steady; supply limited; $50, delivered, carlots, sacked.

Los Angeles: Demand slow; trend firmer;

supply moderate; $47.80@49.40.
Atlanta: Demand fair; trend steady; supply ample; dried $53.75, sacked, deliveerd.
Portland: Demand good; supply ample; trend unchanged; $51.60.
Buffalo: Demand and supply fair; trend steady to higher; $53, sacked, Boston.

DRIED BUTTERMILK

Ogden: Supply normal; $17.25 cwt.
Boston: Demand good; supply short; 14¢ lb.
New Orleans: Demand fair; trend steady; supply ample; $12@13 cwt., sacked.
San Francisco: Demand fair; supply ample; 11½¢ lb.
Louisville: Demand dull; trend steady; supply ample; 12½@13¢ lb.
Los Angeles: Demand slow; trend fully steady; supply ample; 13¢ lb., sacked.
Chicago: Demand fair; trend firm; supply ample; sacked: medium acid $13.50 cwt., nominal; sweet cream $13.50 cwt., nominal.
Buffalo: Demand good; trend steady; supply limited; $13.80 cwt.

DRIED CITRUS PULP

Boston: Demand slow; supply ample; $32.50, sacked, f.o.b. Florida.
New Orleans: Demand fair; trend easy; supply normal; $32.50@35, sacked, f.o.b. Florida points.
San Francisco: Demand and supply fair; meal $49.
Atlanta: Demand and supply good; trend weak; dried $30@32.50, sacked, Florida producing plants.
Los Angeles: Demand slow; trend steady; supply light; orange pulp $43; lemon pulp $42.
Buffalo: Demand poor; trend steady to lower; supply adequate; $30.50, sacked, f.o.b. Florida points.

DRIED SKIM MILK

San Francisco: Demand and supply fair; 13½¢ lb.
Philadelphia: Demand slow; supply light; $12.50 cwt.
Boston: Demand very active; supply scarce; 13¢ lb., nominal.
Ogden: Supply normal; $15.15 per 100-lb. drum.
New Orleans: Demand slow; trend unchanged; supply ample; $13@13.50 cwt., sacked.
Cincinnati: Demand fair; trend steady; supply adequate; 13@14¢ lb., sacked.
Louisville: Demand dull; trend steady; supply ample; 12½@13¢ lb.
Portland: Demand slow; supply ample; trend unchanged; 12¢ lb.
Chicago: Demand steady; trend firm; supply ample; $13@13.50 cwt., nominal.
Minneapolis: No change in situation; supply scarce; demand good; market firm at $13.75 cwt., sacked.
Los Angeles: Demand fair; trend steady; supply about ample; 15¢ lb., less than ton lots, sacked; 14¾¢ lb., ton lots, sacked.
Buffalo: Demand good; trend steady; supply limited; spray $13.95 cwt.

DRIED WHEY

San Francisco: Demand steady; supply good; $5.75 cwt.
Cincinnati: Demand fair; trend steady; supply adequate; $6 cwt., sacked.
Denver: Demand fair; trend steady; supply ample; $6.50 cwt.
Ft. Worth: Demand fair; supply adequate; carlots, standard $8, sacked, delivered Ft. Worth; $6.25 ton lots, f.o.b. warehouse, Ft. Worth.
Louisville: Demand slow; trend steady; supply normal; 6½¢ lb.
Philadelphia: Demand slow; supply light; $6.50 cwt.
Ogden: Supply normal; $6 cwt., sacked.
Boston: Demand and supply steady; 5½¢ lb.
New Orleans: Demand good; trend easy; supply ample; $6@6.50 cwt., sacked.
Seattle: Demand and trend steady; supply good; $6.40 cwt., ex-warehouse, l.c.l.
Chicago: Demand good; trend steady; supply fair; $5.75@6 cwt., sacked.
Los Angeles: Demand slow; trend unchanged; supply adequate; $5.93 cwt., carloads, sacked; $6.23 cwt., l.c.l., sacked.
Minneapolis: Market steady; demand good; supply tight; $5.50 cwt.
Portland: Demand slow; supply ample; trend unchanged; $5.80.
Wichita: Demand light; supply ample; $6.50 cwt., sacked.

FEATHER MEAL (HYDROLYZED)

Boston: Demand steady; supply improved; $80, sacked, f.o.b. shipping points.
Ft. Worth: Demand fair; supply good; 85%-87% protein $80, sacked, f.o.b. trucks, north Texas plants.
Ft. Worth: Demand fair; supply plenty; 85%-87% protein $75, sacked, f.o.b. trucks, north Texas plants.
Los Angeles: Demand slow; trend unchanged; supply ample; $1 a unit of protein, sacked.
Atlanta: Demand good; trend steady; supply very limited; hydrolyzed $77.50, bulk, f.o.b. Georgia and Alabama producing mills.

FISH MEAL

Ft. Worth: Demand fair; supply sufficient; 65% protein $122, sacked, delivered Ft. Worth.
Ogden: Supply normal; $1.70 a unit, f.o.b. Coast; 65% $115@117.
Omaha: Demand fair; trend firm; supply ample; 60% menhaden $130, f.o.b. Omaha.
Boston: Demand and supply steady; $130, sacked, f.o.b. Gloucester.
Milwaukee: Demand good; supply fair; 60% $155, sacked.
San Francisco: Demand slow; supply ample; $1.70 a unit of protein.
Cincinnati: Demand fair; trend steady; supply adequate; $145.
New Orleans: Demand dull; trend easy; supply ample; menhaden, 60% $127.50@130; scrap $124@126, both sacked, f.o.b. Gulf.
Denver: Demand fair; trend steady; supply ample; $1.85 a unit protein, f.o.b. West Coast.
Louisville: Demand dull; trend steady; supply light; $48, nominal.
Seattle: Demand and supply good; trend strong; $1.85 a unit protein, delivered truck lots, sacked, Canadian production.
Portland: Demand good; trend higher; supply ample; $1.65.
Minneapolis: Fishing all over on West Coast; prices there up 20¢ a unit; fish meal market much stronger; 70% herring shot up $8 to $162, sacked, Minneapolis; Gulf menhaden and 60% blended both up $2 to $147, sacked; for 60% blended and $145, sacked for menhaden.
Los Angeles: Demand slow; trend unchanged; supply light but ample; local production, 60% protein $1.80 a unit, sacked.
Chicago: Demand very unsettled; trend easier; supply liberal; sacked: menhaden, eastern $114@121, nominal and scrap $110@117, nominal; Gulf, meal $114@121, nominal and scrap $110@117, nominal; Canadian herring meal $1.65 a unit of protein.
Atlanta: Demand fair; trend steady; supply ample; 60% menhaden $115@120, sacked, f.o.b. Atlantic and Gulf ports.
Buffalo: Demand just fair; trend steady; supply ample; 60% protein menhaden $130, bulk, $135 sacked.

HAY

Boston: Demand and supply steady; $40@42 baled.
Ogden: Supply average; $25 in the barn.
Ft. Worth: Demand fair for alfalfa, practically nil for prairie and Johnson grass; supply sufficient; carlots, baled, No. 1 alfalfa $38@40, No. 2 $36@38; No. 2 prairie $24@26; No. 2 Johnson grass $22@24, delivered Texas common points.
Philadelphia: Demand slow; supply light; $25@26.
Denver: Demand and supply fair; trend good; alfalfa baled $32@33, new hay, third cutting.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1 timothy $24@25; No. 1 red clover $26@27; alfalfa clover mixed $27.50; alfalfa, first cutting $32, second cutting $25; wheat or oat straw $18@20.
Seattle: Demand good; trend firm; supply fair; U.S. No. 2 green baled alfalfa $40, delivered, truck lots.
Los Angeles: Demand good; trend stronger; supply light; U.S. No. 1 $39@40; U.S. No. 2 leafy $36@37; U.S. No. 2 green $37@38; U.S. No. 2 $33@35.

HOMINY FEED

Memphis: Demand poor; trend steady; supply ample; white $43, yellow $43.
Boston: Demand fair; supply ample; $53.50.
Milwaukee: Demand good; supply tight; $47.50, sacked; $43, bulk; nominal.
Chicago: Demand fair; trend firm; supply adequate; $43, nominal.
New Orleans: Demand fair; trend easy; supply ample; $45.50@46, sacked.
Cincinnati: Demand poor; trend steady; supply limited; $45.
Louisville: Demand dull; trend strong; supply light; $48.60.
Seattle: Demand fair; trend steady; supply limited; $53, delivered, carlots, sacked.
Buffalo: Demand fair to good; trend steady to higher; supply poor; $53.50, bulk, Boston.
St. Louis: Demand slow; trend steady; supply adequate; yellow $42.

LINSEED OIL MEAL

Chicago: Demand fair; trend much easier on solvent, firm on expeller; supply ample; Minneapolis basis: solvent $70@71, expeller $78.50.
Los Angeles: Demand slow; trend unchanged; supply ample; local production, 31% protein $73.
Boston: Demand and supply steady; $91.50@92.
Omaha: Demand slow; trend soft; supply ample; 34% solvent $75.80; 32% old process $86.30, Omaha basis.
New Orleans: Demand slow; trend easy; supply ample; $94@96, sacked.
San Francisco: Demand fair; supply ample; $78.
Cincinnati: Demand poor; trend steady; supply adequate; new process $74; old process $78.50, Minneapolis.
Milwaukee: Demand good; supply fair; old process $89; new process $81.50, both sacked.
Denver: Demand poor; trend steady; supply fair; $84.30, Denver.
Philadelphia: Demand slow; trend unsettled; supply light; 34% $90.
Ft. Worth: Demand slow; supply sufficient; 34% protein, new process $94, rail.
Louisville: Demand dull; trend easy; supply good; old process $87.50; new process $85.
Minneapolis: Steady at $70.50, December-March.
Seattle: Demand fair; trend steady; supply limited; $90, delivered car loads, sacked, 31% protein, California.
Portland: Demand fair; trend higher; supply scarce; $92.
Wichita: Demand fair; supply sufficient; 34% $90, sacked.

LIVER AND GLANDULAR MEAL

Omaha: Demand and trend fair; supply limited; 65% $180, sacked, Omaha basis.

MALT SPROUTS

Chicago: Demand fair; trend steady; supply ample; $32.50.
Boston: Demand slow; supply light; Canadian $48, sacked.
Milwaukee: Demand good; supply fair; odd weights $39, even weights $42, sacked; bulk $33.
New Orleans: Demand fair; trend easy; supply ample; $42@43, sacked.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $39, Cincinnati.

MEAT AND BONE MEAL

San Francisco: Demand fair; supply ample; $1.55 a unit of protein.
Omaha: Demand good; trend strong; supply ample; $72.50.
Ogden: Supply normal; $77.50 ton, 50% protein, in 100 lb. bags.
Los Angeles: Demand slow; trend unchanged; supply ample; 50% protein $1.65 a unit.
Chicago: Demand good; trend firm; supply fair; 50% protein $77.50 cwt., sacked.
Boston: Demand slow; supply adequate; $1.15 a protein unit, sacked; converted 50% $70.
Ft. Worth: Demand good; trend higher; supply normal; meat and bone, 50% $70@72, f.o.b. Ft. Worth.
Cincinnati: Demand good; trend steady; supply short; 50% meat and bone scraps $71, Cincinnati.
Denver: Demand good; trend firm; supply ample; 50% $72.50, bagged, truck lots; $69.50, bulk.
Louisville: Demand slow; trend steady; supply ample; $80@85, sacked.
New Orleans: Demand slow; trend easy; supply ample; $84.50@86.
Seattle: Demand good; trend steady; supply ample; $80, ex-warehouse, sacked, 50% protein.
St. Paul: Demand and supply steady; no change in price; $70@76, sacked.
Portland: Demand slow; supply ample; trend unchanged; $1.42.
Buffalo: Demand fair; trend steady; supply ample; 50% meat scraps $70 ton, bulk; $75 sacked.
Wichita: Demand good; supply sufficient; 50% $80, sacked, f.o.b. Wichita; 55%, no quotations, no offerings.
St. Louis: Demand good; trend steady; supply ample; $76.

MILLFEED

Minneapolis: After big increases week ago, millfeed market has settled down, but it's still firm; holiday cut into running time of flour mills holding down supplies; standard midds. steady at $43, sacked; bran steady at $40.50, sacked; red dog $1 off at $44, sacked.
Wichita: Demand good; supply sufficient; basis Kansas City: bran $39@39.50, shorts $39@39.50.
Ft. Worth: Demand extremely good, particularly on shorts and middlings; limited offerings for nearby shipment; bran $44.50, burlaps $47; gray shorts $48, burlaps $48.50; bulk middlings $47.50, delivered Texas common points.
Chicago: News from the Gulf dock strike area remains disquieting. With the "cooling-off" period scheduled to wind-up the end of this calendar week, millfeed users were becoming increasingly concerned over the danger of curtailed flour mill operations on account of not being able to get flour off the docks and aboard waiting ships. Bran is up $1@4 ton from a week ago, standard midds. $3 higher and red dog $3@3.50 higher; quotations, bulk, standard bran $40.50@43.50; standard midds. $44.50, red dog $46.50.
Omaha: Demand good; trend strong; supply tight; sacked bran $40; sacked gray shorts $40; bulk standard midds. $41, all Omaha basis.
Cincinnati: Demand fair; trend steady; supply adequate; $45.50.
Memphis: Demand poor; trend steady; supply ample; wheat bran $46.70, gray shorts $46.70, standard midds. $46.70.
St. Louis: Demand good; trend steady; supply tight; bulk bran $40.50@41, middlings $44@44.50.
Boston: Demand slow; supply light; bran $49.50, middlings $50.50.
Buffalo: Millfeed sales were very quiet this week. Despite holiday-shortened flour mill running time, nearby supplies of millfeeds were available. Mixers' business in the East has not picked up and although millfeeds are relatively cheap, there is no incentive to stockpile supplies. Levels here are drifting lower than in the West where a potential Gulf dock strike has firmed prices. And unless demand here increases, the relationship of levels is likely to stay. The sacked differential on bran and middlings held steady at $4.50. Bulk and sacked bran ended the week unchanged to 50¢ higher; bulk and sacked middlings were unchanged to off 50¢. Red dog, bulk and sacked, held steady. Quotations Dec. 22: bulk bran $40.50@41, sacked $45@45.50; bulk middlings $42@42.50, sacked $46.50@47; bulk red dog $46.50@44.50, sacked $48@49.
Philadelphia: Demand spotty; trend unsettled; supply fair; bran $53, standard midds. $54, red dog $54.
New Orleans: Demand good; trend easy; supply ample; bran $48@48.75, shorts $48@48.75, sacked; bran $44@44.75, shorts $46@46.75, middlings $46@46.75, bulk.
Louisville: Demand slow; trend strong; supply good; bran $48.60, shorts $51.10, middlings $51.10.
Ogden: Supply normal; to Utah and Idaho: red bran and mill run $35, middlings $40; to Denver: red bran and mill run $42, middlings $47; to California: red bran and mill run $42.50, middlings $47.50, f.o.b. San Francisco and Los Angeles.

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TERMINAL ELEVATORS:
Kansas City, St. Louis, Chicago, Buffalo, Omaha, Toledo, Columbus, Fort Worth, Portland, Boston, Galveston, Enid, Minneapolis, Norfolk, San Francisco, Nashville, Louisville, Memphis, Houston

Denver: Demand good; trend steady; supply tight; shorts $42, bran $42, mill run $42.

Seattle: Demand fair; trend easy; supply good; $37, delivered common transit points, carlots.

Portland: Demand slow; trend lower; supply ample; $36.

San Francisco: Demand slow; supply ample; millfeed $43; red bran $52.50.

Los Angeles: Demand moderate; trend steady to stronger; supply light to ample; standard mill run $42@43; red bran $51@51.50.

MINERAL FEED

Seattle: Demand fair; trend steady; supply good; mixer-mineral $48, ex-warehouse; all-purpose mineral $85, ex-warehouse, both sacked.

Ogden: Supply average; $113 ton in 50-lb. blocks; $103 ton, granular, 50-lb. bags.

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

Ft. Worth: Demand fair; supply sufficient; all-purpose granules $90, block $97; mineral phosphorus 6% granules $106; block $113; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog-mineral phosphorus 3½% granules $87, phosphorus 2% $77 (all in 50-lb. paper bags).

San Francisco: Demand steady; supply good; all-purpose with iodine $70, sacked.

Denver: Demand fair; trend steady; supply ample; $100.

MOLASSES

Los Angeles: Demand fair; trend unchanged; supply ample; $20, f.o.b. tank cars; $20.25, f.o.b. tank trucks.

Boston: Demand steady; supply plentiful; 16½¢ gal. in tank cars.

Minneapolis: Market steady; demand good; supply adequate; $31, tank truck, delivered.

San Francisco: Demand and supply good; $20, f.o.b. cars, Richmond, Cal.

Cincinnati: Demand fair; trend steady; supply adequate; 10¢ gal., New Orleans.

Denver: Demand fair; trend steady; supply ample; 10¢ gal., New Orleans; $17.10 ton, New Orleans; $20 ton, West Coast.

Memphis: Demand poor; trend steady; supply ample; blackstrap 10¢ gal., tank car, f.o.b. New Orleans; $22.60 ton, delivered Memphis, truck.

Ft. Worth: Demand good; supply sufficient; blackstrap 11¼¢ gal., f.o.b. Houston; delivered Ft. Worth truck $25.94, seller's market price on date of shipment.

New Orleans: Demand good; trend steady; supply ample; 10¢ gal., tank cars and trucks; 600-lb. customers' drums $7.16.

Louisville: Demand slow; trend weak; supply good; 10¢ gal., tank car lots, f.o.b. Gulf.

Seattle: Demand fair; trend easy; supply good; $20.25, f.o.b. Seattle, tank truck lots.

Atlanta: Demand fair; trend steady; supply good; citrus $15@17, Florida producing plants.

Buffalo: Demand and supply good; trend steady; 16½¢ gal., f.o.b. Albany.

St. Louis: Demand slow; trend steady; supply ample; 10¢ gal., tank car, New Orleans.

OAT PRODUCTS

Boston: Demand and supply spotty; white pulverized $59, reground oat feed $34.50, both sacked.

Philadelphia: Pulverized white, demand slow, supply fair $53; domestic, demand slow, supply very light $31.50; Canadian oat feed, demand slow, supply fair $32.

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NEW ENGLAND
BY-PRODUCTS
CORP.
177 Milk St.
Boston 9, Mass.

Ft. Worth: Demand slow; supply sold up for nearby shipment; oat millfeed $51.70, reground $33.70, January, sacked, new jutes.

Minneapolis: Strong oat prices bolstering oat products markets, supplies ample; feeding rolled oats steady at $33; feeding oatmeal steady at $69; pulverized up 50¢ to $47.50; crimped steady at $60.50 and reground oat feed steady at $23; all sacked prices, $3 less in bulk.

Chicago: Demand good; trend easier for reground; supply fair; reground oat feed $24@25, January shipment; No. 1 fine ground feeding oatmeal $77; feeding rolled oats $77@80.

Los Angeles: Demand slow; trend steady; supply tight; local production, pulverized $66, sacked.

Cincinnati: Demand fair; trend steady; supply adequate; reground oats $20.65; pulverized white oats $51.60; rolled oats $77.

Memphis: Demand poor; trend steady; supply tight; 3½% protein, reground oat feed $30.25.

Louisville: Demand fair; supply good; trend unchanged; reground $25.30, rolled oats $34.30, feeding oatmeal $76.80, pulverized white $50.80, crimped white $67.80.

Seattle: Demand good; trend steady; supply fair; $55, delivered, truck lots, 38 lb. or better.

Portland: Demand slow; supply ample; trend unchanged; rolled $60, ground $62, cleaned $60.

OYSTER SHELL

Boston: Demand and supply steady; in paper $26.05, sacked.

Los Angeles: Demand slow; trend unchanged; supply ample; $14.80, sacked.

Cincinnati: Demand fair; trend steady; supply adequate; $24.45, sacked.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Louisville: Demand good; trend steady; supply normal; in paper: 80-lb. sacks $23.45, 50-lb. sacks $23.70, 25-lb. sacks $25.95.

New Orleans: Demand and supply good; trend steady; $24@25.50, papers.

Seattle: Demand and trend steady; supply good; eastern $36, delivered, carlots, sacked.

Portland: Demand slow; supply ample; trend unchanged; western $31, eastern $36, granite grits $25, shell flour $21.

PEANUT OIL MEAL

Atlanta: Demand fair; trend steady; supply limited; 45%: solvent $60.50, expeller $63; f.o.b. Georgia and Alabama producing mills.

PEAT MOSS

Philadelphia: Demand slow; supply very scarce; $2.99 a bale, f.o.b. pier, nominal.

Chicago: Demand fair; trend steady; supply ample; standard 7⅛ cu. ft. bales $3.80.

Los Angeels: Demand slow; trend unchanged; supply ample; Canadian 5.6 cu. ft. bales $3.65.

Boston: Demand and supply seasonally steady; $3.15 bale in carlots.

San Francisco: Demand and supply fair; $3.65 a bale.

Seattle: Demand and supply good; trend firm; $2.80 a bale, delivered truck lots.

POTASSIUM IODIDE, U.S.P.

Chittenango, N.Y.: Demand good; trend firm; supply ample; standard blends, 90% KI 10% stearate or carbonate mixture, 100 lb. drums $1.32 lb.; 200 lb. and up $1.30 lb., all delivered.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures: 250-lb. drums $1.35; 200 lb. in 100-lb. drums $1.35; 100-lb. drums $1.38; 25-lb. drums $1.41, f.o.b. Cincinnati.

POULTRY BY-PRODUCTS

Boston: Demand and supply fair; $72, sacked, f.o.b. shipping points.

Los Angeles: Demand good; trend unchanged; supply ample; $1.45 a unit of protein.

Ft. Worth: Demand good; supply limited; 55% protein $80@82.50, sacked, f.o.b. north Texas plants.

Ft. Worth: Demand heavy; supply very scarce; 55% protein $82.50@85, sacked, f.o.b. north Texas plants.

Atlanta: Demand good; trend steady; supply very limited; meal $75, bulk, f.o.b. Georgia and Alabama producing mills.

RIBOFLAVIN

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gm. in less than ton lots, in 3.36 to 16 gm./lb. mixtures, 3¢ in ton lots or more; freight prepaid or paid to destination.

RICE BY-PRODUCTS

Los Angeles: Demand fair; trend unchanged; supply limited; California production, high fat content, bran $55, sacked.

Ft. Worth: Demand slow; supply very limited; mills closed down for holidays; rice bran $36@37, nominal, f.o.b. south Texas rice mills; hulls $3.50, sacked, f.o.b. mills.

San Francisco: Demand good; supply ample; bran $45; polished $49.

Atlanta: Demand fair; trend steady; supply nil until Jan. 1, 1960; bran $48, sacked, delivered.

SCREENINGS

Ft. Worth: Demand good; supply limited; ground mixed grain $28.50@30.

Chicago: Demand good; trend steady; supply fair; ground grain screenings $36; Canadian $28.50.

Minneapolis: Very slow market; supplies very limited; screenings available hard to sell because buyers don't want cars on tracks over holidays; no change in prices from last week; Canadian $25, lights $12@20, mediums $21@29, heavies $30@40; flax screenings, basis 15%, steady at $48.

Cincinnati: Demand fair; trend steady; supply adequate; grain cleanings $24, delivered Cincinnati.

Buffalo: Demand fair to good; trend steady to higher; supply fair; ground, sacked $39.50, New York; unground, bulk $32.50, New York.

Wichita: Demand good for sacked, fair for bulk; supply ample; 44% $68, 50% $76, sacked; 44% $65, 50% $73, bulk, f.o.b. Wichita.

Portland: Demand slow; trend higher; supply light; $52.50, f.o.b. Decatur.

Atlanta: Demand fair; trend steady; supply ample; 44% $66, delivered.

Chicago: Prices for soybean oil meal dropped during the past week, with soybeans down sharply compared with a week or two ago. While the spot article has eased off, meal futures have rallied the last few days and January edged back up to the $58 mark—best since Dec. 16. Quotations: Decatur basis, 44% protein, unrestricted billing $59@60 and eastern restricted $56@57; 50% protein, unrestricted billing $64, and eastern restricted $60.

SOFT PHOSPHATE WITH COLLOIDAL CLAY
(Sacked)

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.58@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Los Angeles: Demand good; trend unchanged; supply heavy; milo $2.17½ cwt.

Ogden: Supply normal; milo $42@43.

Ft. Worth: Demand fair; moderate offerings; No. 2 yellow milo $2@2.02, delivered Texas common points.

Seattle: Demand and supply good; trend steady; $46.50, delivered, carlots.

SOYBEAN OIL MEAL

Denver: Demand poor; trend steady; supply tight; $72, Denver.

Los Angeles: Demand slow; trend unchanged; supply adequate; $78.90@79.90.

Minneapolis: Apparently leveling off after scare from processors closing down or otherwise curtailing production through holiday weeks; sideways movement now at $52, Decatur.

Ogden: Supply normal; $77@82.

Philadelphia: Demand and supply fair; trend unsettled; 44% $57.50, Decatur.

Boston: Demand fair; supply ample; 44% $56, 50% $60, f.o.b. Decatur.

Ft. Worth: Demand fair; supply adequate; 44% $67, December-January; 50% protein $74.30@74.90, January-March; trucks: 44% $69, 50% protein $75, prompt.

New Orleans: Demand slow; trend steady; supply ample; $66@67.

San Francisco: Demand fair; supply ample; $77.40.

Cincinnati: Demand fair; trend steady; supply adequate; $59@59.50, Decatur.

Louisville: Demand fair; trend easy; supply good; $54.20.

Memphis: Demand poor; trend lower; supply small; prime 44% solvent $61, f.o.b. Memphis.

Milwaukee: Demand good; supply fair; $60, Decatur.

Omaha: Demand good; trend strong; supply tight; 44% $62.60, delivered Omaha.

Seattle: Demand fair; trend steady; supply ample; $80, delivered, carlots.

TANKAGE

Omaha: Demand good; trend strong; supply ample; $72.50.

Ft. Worth: Demand fair; supply sufficient; 60% digester $73, Ft. Worth.

Chicago: Demand good; trend steady; supply ample; 60% protein $77.50, sacked.

St. Paul: Demand and supply steady; no change from last week; $70@73, sacked.

New Orleans: Demand fair; trend easy; supply light; $82.50@89.50.

Louisville: Demand slow; trend steady; supply good; $80@85, sacked.

Cincinnati: Demand good; trend steady; supply short; 60% digester $76.50, Cincinnati.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand good; offerings limited for nearby shipment; 4¾¢ lb., nominal, f.o.b. north Texas area.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.50; in 25-lb. drums $1.55, freight allowed to destination.

WHEAT GERM MEAL

New Orleans: Demand fair; trend easy; supply ample; $69@71, cottons.

PIG CROP

(Continued from page 1)

the season accounts for most of the nation's annual pig production. The trend toward greater use of multiple-farrowing practices is reducing this importance, however.

The USDA report, based on a survey of 174,000 farm and ranch operators, indicates 7,310,000 sows will be farrowed in the spring of 1960 (December, 1959-May, 1960)—12% less than the number farrowed last spring. USDA said that if these intentions materialize and the number of pigs per litter equals the 10-year average with an allowance for upward trend, the 1960 spring pig crop would be approximately 52 million head. A crop of this size would be 11% less than the 1959 spring crop, which at 58.6 million head was up 12% from 1958's.

Reports from farmers on breeding intentions for the spring of 1960 indicate a farrowing decline in all but one region. The north Atlantic states show a 2% increase over 1959. Other regions and changes from 1959, as indicated by the USDA survey, are: West north central, down 15%; east north central, south Atlantic and south central, all down 9%, and West, down 7%.

Corn Belt Intentions

The number of sows intended to farrow in 10 of the corn belt states in the spring of 1960 is expected to be 13% less than a year earlier. These states—Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, South Dakota, Nebraska and Kansas—accounted for 74% of the 1959 U.S. spring pig crop.

The 1959 pig crop totaled 101.6 million head, 8% more than the 1958 crop of 94.5 million head, according to the USDA. This year's crop was the largest since the record 121.8 million head produced in 1943. The spring pig crop was up 12% from that of 1958, and the fall crop of 43 million was up 2%.

Soybean Crop Estimate Drops Meal Futures

MEMPHIS, TENN.—The government's bearish soybean crop estimate for 1959 brought a severe drop in soybean futures and, along with it, a setback in oilseed meal futures on the Memphis Board of Trade the past week.

Earlier in the period, the oilseed meal futures market had been firm as the result of talk of shutdowns by crushers. However, the soybean report of 537,895,000 bu. was up about 10 million bushels and caught the trade by surprise. Consequently, soybeans sold off and meal declined in sympathy.

Processors had been reported putting on an inverted crush, buying products and selling soybeans.

Memphis basis soybean oil meal closed Dec. 21 50¢@$1 ton lower than on Dec. 14. Unrestricted soybean oil meal was 50¢@$2.35 lower and bulk solvent cottonseed oil meal was down 50¢@$1.50.

INDUSTRY SURVEY

(Continued from page 7)

Eastern manufacturer: "We are investigating."

Eastern mill: "We are undertaking an experiment with broilers."

Western firm: "Yes, to a certain degree. Perhaps an egg deal."

● Do you expect more feed manufacturers to own and operate livestock and poultry feeding enterprises—that is, their own operations, not just contract feeding?

Of the 54 feed men answering this question, 40 indicated that they expect more direct operation of feeding enterprises by feed manufacturers themselves. Some of the answers were qualified to some extent, and some feed men implied that while they did not like to see this, they look for more of it. Also, a number commented that more feeders are likely to mix their own feed or become feed manufacturers, and some gave this as reason for feed mills getting into feeding. Some of the feed men feel that it will be mostly smaller mills who get into their own feeding, and some feel that bad credit experiences can lead to more direct feeding by feed mills. Others flatly said they do not expect more of this, and some implied that it was inviting real loss situations.

Some of the comments follow:

Large firm: "Smaller feed manufacturers will try operating their own poultry feeding enterprises in lieu of financing customers."

Local midwestern firm: "Yes. This is the best way to go."

Midwestern manufacturer: "Yes. As feed business becomes more competitive and as integration and contract feeding becomes more a part of business, it is most likely that many feed manufacturers will get into their own operation in feeding livestock and poultry in large proportions."

Firm in Midwest and Southeast: "I expect more owners and operators of livestock and poultry feeding enterprises to become feed manufacturers. I would guess the reverse will necessarily follow."

Southwestern firm: "Yes—and more

livestock and poultry operators to become feed manufacturers."

Midwestern company: "Eventually this will come, it can't help it. It is the most efficient way to get the meat, milk and eggs produced."

Midwestern firm: "Weaker manufacturers will resort to own animal production."

Southern operation: "Perhaps, but believe they'll be the smaller 'specialized' manufacturers."

Southeastern firm: "Yes, in time. This will be especially true as more and more large customers put in their own mixing plants."

Midwestern manufacturer: "Yes, especially cattle feed yards."

Southwestern firm: "Yes, we believe this is definitely the trend in the industry."

Western firm: "Yes. There is also a trend that farmers and ranchers are setting up feed manufacturing facilities."

Midwestern firm: "Yes—but not us."

Northwestern firm: "Yes, under the disguise of experimental(?) farms."

Regional manufacturer: "No, because the feed manufacutrers should not enter into feeding enterprises which are in direct competition with the consumer of feeds."

Northeastern firm of regional size: "No. As new ones enter this field, others take their licking and get out."

Company in central region: "Not if they are smart."

Midwest firm: "No. Too many have already lost money."

Western firm: "Could be, though we hope not."

Northeastern firm: "Not the larger ones. Some smaller ones, yes. Also, some of the larger feeding operations will make, in part at least, their own feed."

Northwest firm: "Yes, they will probably be forced into it."

Local central region mill: "Believe small operators will expand their own operations in broiler, turkey and layer enterprises."

Central states firm: "Not in our area."

Local midwest firm: "I think that most of us are against it."

Southwest firm: "Will contract and lease farms."

Northeastern mill: "Trend is that way."

● How do you view the problems in credit and financing and credit losses? Do you expect any tightening of credit for feeders?

The feed men are almost unanimous in looking for a general tightening of credit and financing for feeders. Only a couple of respondents see otherwise. And it appears that many are doing something about it themselves, not just "letting George do it."

Credit losses are mentioned as a principal reason for the tightening. Also, the more limited supply of money and higher interest rates for feed manufacturers are expected to restrict feeder financing by feed firms. While they expect a tightening, some feel that this will only hold the line and not eliminate many problems. Also, some note that there still are a lot of losses to be sustained and written off. Another important factor in any tightening is the previous volume of credit and its effect on working capital.

Quite a number say they will screen accounts more closely, and some acknowledge that this may hurt sales volume. Several commented that banks are tightening lending.

Comments follow:

Midwestern firm: "Definite tightening of credit—but many reports of liberal credit deals that will hurt industry."

Midwestern firm: "Should be a lot of credit problems, and we expect to tighten up on credit."

Western firm: "Financing and good credit policies are a must with the high rates of interest now in effect."

Operation in the Midwest: "Credit financing has been a problem simply because of the volume, not because of losses. We expect to screen contract feeders more closely."

Western firm: "Tight money may help to stop trend toward foolish financing."

Midwestern firm: "Losses have been good for the industry. If lessons are learned, a tightening of credit will follow. Over-production will temporarily be slowed."

Southwestern firm: "Many companies will take a second look at credit and financing, particularly since the Chemell loss in Georgia. This should be good for the entire industry, particularly broilers."

Midwestern manufacturer: "Yes. A feeder must shop for proper financing the same as he buys replacements."

Southern firm: "1960 will be a year of the 'agonizing reappraisal' in credit practices."

Northeastern firm: "This is the big 'bug-a-boo' of the feed business. We are keeping people in farming who should have been out."

Midwestern firm: "Yes, but not as much as there should be."

Large firm: ". . . Write-offs for bad debts will be larger."

Eastern firm: "Not much credit involved here. We are on a cash basis."

East: "In this area we seldom extend credit on livestock unless the grower has equal or greater equity in other assets also."

Eastern firm: "Expect a tightening of credit but can only expect that this will help hold the line without much improvement in actual credit level or problems."

Local mill: "Yes, but with it must come less volume."

Western firm: "Credit problems will perhaps increase. Likewise losses."

Central states firm: "Many dealers cannot afford to finance any longer."

Large firm: "It will be more difficult for a manufacturer to secure credit, with result there may be some tightening of feeder credit."

Local firm: "Little as net result, but accounts will be more carefully screened."

Central states firm: "Credit is for bankers to handle and will be extended only on a businesslike basis."

Local mill: "Credit will continue to be the No. 1 problem. Losses will increase sharply."

Northeast firm: "We are tightening our credit policy and think the industry should."

Southwest firm: "Not here."

Southeast mill: "Banks taking a second look. Will tighten in our area."

Northeast firm: "Lots of losses yet to be absorbed."

Large firm: "General tightening up now taking place. Write-offs for bad debts will be larger."

● Do you think more feeder financing will be handled by banks and other lending agencies? Any comments on the effects of higher interest rates and tighter money supply?

Seventeen of the manufacturers seemed to feel definitely that there would be more feeder financing by lending agencies, and a few gave qualified "yes" answers. At least 25 definitely believed there would not be more financing by banks, at least for the present, and several others were indefinite about it.

Many feed men indicated that higher interest rates and tighter money supplies would slow feeding. A number commented that less money for manufacturers would cut down on feed firms' feeder financing. However, some felt that less financing of feeders by banks would result in more financing by feed companies.

Opinions, probably depending on particular situations, seemed to vary considerably. Some of the comments follow:

Large firm: "I doubt if banks or other lending agencies will increase feeder financing. Rather, I think there will be a tendency for less of it. More financing will be done by feed manufacturers in spite of tighter money supplies."

Local midwestern firm: "Banks not too interested. PCA is best bet."

Midwest: "New interest cost is just now reaching the feeder. Still too early to tell."

Midwestern firm: "Yes, money is tight. Interest rates are running close to legal maximum."

Southern operation: "More effort will be made to get banks and other agencies to finance feeding. Whether they will is doubtful."

Southeastern firm: "More feeder financing will be routed to the banks, regardless of interest rates."

Southwestern firm: "We doubt that banks and other lending agencies will handle more feeder financing than in the past."

Southwestern firm: "I think banks, etc., may lend their money to better risks."

Midwestern manufacturer: "Our banker would prefer to loan us the money and have us responsible for the notes and the customers, than to loan the money direct to the producer. This is on a feeding contract. On regular livestock loans, the bank goes direct. Higher interest rates will not slow down feeding in this area."

Western firm: "Banks and other lending agencies are willing to handle feeder financing as long as the risks do not exceed the formulas normally used by the lending agencies."

Midwestern company: "We are raising rates from 6% to 7%. Do not believe that this will slow down demand for production loans."

Local mill in East: "Banks in this area have never financed feeding operations. After viewing the difficulties in the Southeast they are smug about the rightness of their attitude. Higher interest rates will divert some funds away from feeder financing to higher yielding investments."

Local mixer: "More feeder financing will be done by banks and other agencies. Higher interest rates will not affect the demand for this kind of money."

Midwest firm: "As far as we are concerned, all feeding can be handled by the banks. Higher interest will further slow feeding."

Northeastern firm: "In general, banks will be less inclined to feeder financing."

Corn Belt firm: "This is the only type financing we have promoted."

Western firm: "They (banks) always talk about it but do nothing. Bankers may discourage feeding as they did in 1957."

Northwest: "In this area, PCA is taking a more liberal look at livestock financing."

Large company: "Yes, we feel there will be more bank financing. Higher interest rates will of necessity have an effect on tightening the money supply."

Northeast mill: "Not after the Chemell case."

Local mill: "Most will be handled by feed dealers and manufacturers."

Southeastern firm: "Less by banks. They can get legal interest rates in other areas with much less risk."

Midwestern firm: "Higher interest rates and tighter money should bring sounder credit terms by feed companies."

Large company: "Banks and lending agencies may finance more. Manufacturers might tighten up on credit programs, which would force the feeder to get assistance elsewhere."

Eastern firm: "If it were not for tight money, would be more financing by banks."

Corn Belt: "Yes. With tight money, manufacturer will be less lenient."

Midwest: "This will slow down the large feed manufacturer in offering so much credit."

Central area: "More interest by banks, but temporarily slowed down because of unfavorable margins on livestock and poultry."

● Do you expect more sale and use of complete feeds for livestock as well as poultry?

Answers to this question varied widely. In some cases, the answers seemed to depend on area or type of operation, but even in similar situations, there were direct variances in views. Among those giving definite answers, 34 said they expect to see more sale and use of complete feeds for livestock, while 19 indicated an opposite opinion.

Many saw a continuation of the trend in which complete feeds are bought and used by feeders for reasons of handling, labor saving, nutrition, etc. A number of manufacturers pointed out that they expected greater use of complete feed but that it would be mixed, using concentrates, at the local mill or on the farm.

Some of those expecting no increase or a decrease in the sale of complete feed indicated that poor livestock prices and an abundance of cheap grain may lead to greater concentrate sales, at least for the present.

Comments follow:

Southeastern firm: "Expect complete feeds to decline and concentrate sales to increase."

Midwest firm: "Yes and no—depending on local conditions."

Midwestern manufacturer: "Yes. The reason for the use of more complete feeds is the fact that contract feeding involves more complete feeds."

Large firm: "I expect more complete feeding of poultry and less of livestock."

Midwestern firm: "No. Too much cheap corn in Midwest."

Large firm: "More complete feed will be fed, but the feed will be made in mills in local area or on the farm."

Midwestern manufacturer: "Yes, it is proved more efficient and will soon become a necessity to meet competition."

Midwest firm: "Yes, the economy of complete feeds is proving to be profitable for the feeder."

Midwest: "Poor livestock prices will slow down demand for complete rations, except in integrated operations."

Western manufacturer: "Yes. We have been promoting this for 10 years and have found it to be good, steady, growing volume."

Local eastern firm: "This depends on the relative price of home-grown grains. Collectively, farmers know when it is to their advantage to use complete feeds and when not."

Western firm: "Tendency in this direction, especially in pellets. We are encouraging it."

Southeast firm: "Yes, but made on local level such as custom mix."

Local midwest mill: "No. Believe reverse will be true."

Local central states firm: "Yes, when returns are better."

Southeast firm: "We go for complete feeds 100%."

Northeast: "No. Concentrates will increase."

Southern mill: "For hogs, no; for poultry, yes."

Southwest: "Yes, very much more."

South: "Should see a slow growth in this type feed where it fits certain operations."

Southeast: "Expect complete feeds to decline and concentrate sales to increase."

Multiple-region firm: "Believe there will be slow-down of complete feed trend. Feeders will continue to use complete rations, but these will be mixed from concentrates at local mills or on the farm."

● Are you making or do you expect to make roughage pellets or complete pelleted feeds, including roughage, for cattle or lambs?

As would be expected, the "yes" answers to this question came mostly from midwestern and western areas where cattle and lambs are fed. However, a few firms in the Southeast and East also are doing this or studying it. All told, 23 of the 58 respondents reported that they are making roughage or complete pellets for cattle or lambs or both. A considerable number of the "yes" replies were from local firms serving nearby areas

or from what might be called medium size operations serving a state or limited region. Generally, the larger companies did not report making these pellets.

Most of the respondents had no special comments, but here are a few:

Local firm in Midwest: "Lambs, yes, cattle no."

Midwestern firm: "Expect to be able to. Don't think it will go over in our area."

Northeastern firm: "We are experimenting."

Southeastern company: "No. This isn't as easy as it sounds."

Southwestern operation: "We will not make roughage pellets or complete pelleted feeds this coming year, but plan to give this attention in 1961."

Southwestern firm: "We are making such rations and we expect business to increase."

Western firm: "Yes, but only where roughage is alfalfa. Not ensilage or ground ear corn."

Eastern firm: "Complete dairy feed, pelleted, yes."

Midwest company: "It is our thinking that the cost of pelleting throws the product out of line."

Local Corn Belt mill: "We make these feeds now; they have a real good future. Our lamb feed looks very big."

Southeast plant: "Roughage pellets for cattle."

Northeast firm: "We are experimenting."

Western company: "We are already making a small volume for both cattle and lambs."

Western firm: "No. Not convinced this is practical."

Local eastern firm: "Not in 1960, for this is presently a 99% broiler area. If there were cattle here to feed, then we would."

● Do you expect more sales by feed manufacturers of premixes and "super concentrates" to feeders and local mixers?

Survey response was definitely on the affirmative side. More than 77% of the manufacturers who answered this question believe sales of premixes and "super concentrates" to feeders and local mixers will be greater. However, others, possibly depending on their own types of operations, just as flatly said "no".

"Super concentrates" are defined here as concentrates or premixes which include everything but soybean meal and grain. They are different from conventional concentrates in that most of the protein (soy) is added locally at local feed mill or on the farm rather than being included in the concentrate. And "super concentrates" are different from conventional vitamin-antibiotic premixes in that they may contain fish and meat products, for example, and minerals.

A midwestern firm indicated that it hoped local mixers would use more premixes and "super concentrates" but that feeders would not.

Other comments in answer to this question:

Western firm: "Yes. Getting so this is the only thing a manufacturer can make money on. If county agents and educational agencies would encourage use of complete feed at a fair return to the manufacturer, that would be the sensible thing."

Eastern manufacturer: "Yes. It is the only means of 'majors' to stay in some markets."

Midwestern firm: "Could be. Easier to ship and more local grain can be used."

Eastern firm of regional size: "A definite trend to this, particularly the portable mixers."

Local midwestern firm: "I suppose this will increase, principally through new business."

Regional firm in Midwest: "A few years ago, premixes and special mixing concentrates became quite popular and appeared to be the trend in which the feed business was going. However, since the manufacturer is dependent upon furnishing finances, it might affect the premixes and mixing concentrates."

Northwestern firm: "Yes, damn it. Terminal mills may have to do more of it."

Southern firm of regional size: "A slow growth limited by ability of feeders and local mixers to pay cash for protein meal."

Southeastern firm: "There may be some of this, but do not plan to enter into this ourselves. After all, we are in the feed manufacturing business. Often those using 'super concentrates' sell customers a product that is low in price, but one that is inferior to what a good manufacturer will sell."

● About what percentage of your 1959 tonnage was in bulk? Do you expect to ship or deliver more feed in bulk in 1960?

Answers to these questions indicated the continuing increase in bulk. Only 6 of the 53 manufacturers who supplied answers said they did not expect to handle more feed in bulk in 1960.

Percentages of 1959 tonnage in bulk ranged from none to 95%. The average was 34%.

Expected increases in 1960 ranged from 10 to 50%.

Some of the highest percentages were indicated by more specialized firms, such as in some poultry areas. Also, percentages were in most cases higher among local mills serving nearby feeders directly, often being 40 to 60% and higher. Some larger companies with extensive dealer set-ups indicated fairly low bulk percentages, but others indicated percentages of 30 or 40 and more and predicted further increases.

Some midwestern and eastern firms reported fairly low bulk percentages, but in other cases they were quite high, indicating considerable differences even within similar areas and among firms of similar size or type. This appears to indicate considerable variation in emphasis on bulk feed.

Comments included:

A midwestern firm said it handled no bulk feeds in 1959 and added that it could go to bulk, "but we won't finance sales."

Another midwestern firm, which handled 10% of its volume in bulk in 1959, does not expect to increase this percentage.

"We deliver bag to bulk, not directly bulk," said a northeastern firm. "No carload shipments of bulk."

A company in the Southwest: "Our volume in bulk has been nil to this point. We expect no increase."

A midwestern company with 15% of its 1959 volume in bulk indicated that its bulk percentage would decrease "due to less complete feed rations."

● Any comment on medicated feeds and federal controls?

The banning of stilbestrol in the production of caponettes and the furor caused by the government's handling of policy announcements on substances which "induce cancer when ingested by man or animal" are looked upon by most manufacturers as harmful to the feed industry.

It's apparent that most manufacturers believe federal control of additives and medicated feeds is required, but that the government, in carrying out provisions of the Delaney amendment, has caused undue confusion and adverse publicity. "Sensible and practical approaches" to methods of control are seen as a need.

Some local manufacturers indicated they would like to be free of manufacturing medicated feeds and would like to see drugs now used in feeds only as prescribed by veterinarians.

Manufacturers with greater sales over larger areas believe current confusion can be eliminated and eventually order will come out of chaos.

Here are some of the other comments made by feed manufacturers:

Western firm: "It smells to high heaven."

Southwestern company: "Any feed which must be so closely controlled is probably a mistake to make."

Midwestern firm: "Hell yes. We need controls, we need medicated feeds, but we surely do need some sensible, practical control methods. We need the Delaney Amendment repealed, and some common sense program instituted."

Firm in the Midwest: "Medicated feeds are difficult to make properly. Medication is not a selling gimmick. Use of medications should be thoroughly tested and approved by FDA before release to industry."

Southwestern firm: "In view of the comments just made by Mr. Flemming concerning stilbestrol and broilers, I think that our federal controls need complete overhauling and that Congress should set up an agency which would be responsible for irresponsible statements being made by people such as Mr. Flemming. We resent very much his statements regarding chickens, because it threw a bad light on broilers which have never been fed stilbestrol."

Southern company: "The mess will just have to be straightened out and it looks like legislation will be the answer."

Northeastern firm: "FDA is off on a tangent creating fears and suspicions. A calm calculated approach is needed and will start to develop soon."

Midwestern company: "Br-r-r-ck."

Corn Belt firm: "It would certainly be a blow to feeders to discontinue (stilbestrol) without an adequate replacement."

Eastern company: "Food & Drug acts too hastily. Delaney Amendment provides political football for politicians who, not knowing facts, have a safe crusade in the word 'cancer.'"

Local firm: "It would be good if they would go back to making feeds and let the vets handle the medicine."

Regional firm: "Medicated feeds have been too extensively used and it is getting to the point where federal controls should be more closely followed. We feel there will be a reversal in the use of medicated feeds in the future because of the unfavorable publicity and the problems involved for the consumer eating the meat of poultry and animals that might have been fed various types of drugs."

Large manufacturer: "More feeder attention must be paid to feeding instructions for medicated feeds."

Western firm: "The feed industry is in a very vlunerable position. Politics will rip us apart."

Northeastern firm: "Federal controls will slow down new drugs because of current FDA situation. This will retard progress but only moderately. The FDA situation resulting from the Delaney Amendment is unrealistic but not likely to improve in 1960."

Eastern manufacturer: "We subscribe to the necessity of federal control of medicated feeds. We are appalled, however, that it is being attempted by emotional appeals to a frightened and uninformed public rather than on an objective, scientific basis."

Midwest manufacturer: "Federal people have proven with their cranberry mess they are not ready to control medicated anything."

Southeast manufacturer: "What will we do for coccidiostats when the FDA gets through?"

Regional company: "It appears that medicated feeds are on the way out."

Western manufacturer: "I think controls will be tighter, but FDA should kick out any of their officials who make irresponsible statements to the press injurious to feed manufacturers on additives which FDA itself approved in the first place."

Local mixer: "I feel that medicated feeds should be made only by prescription by veterinarians."

Regional manufacturer: "We are happy controls are being tightened to prevent requests for special mixes. Our inventory problems will be curtailed."

Midwestern firm: "We feel that medicated feeds, when properly used, are advantageous. However, we feel that federal controls should be more definite."

● What do you see as the principal problems and opportunities for dealers and local mixers?

Problems most frequently mentioned in the survey answers were direct selling, accounts receivable, capital requirements and credit. The area of greatest opportunity for dealers seems to be more and better services, including grinding, mixing and feeder advice.

Some of the comments on problems and opportunities follow:

National firm: "Collection problems will be the dealers' big headaches. Improved grinding and mixing services and more efficient and less costly methods of doing this must be adopted."

Midwestern firm: "One of the principal problems is the high cost of doing business and the amount of capital required to do business today. This, and competing against some direct sellers who manufacture their own feeds are some real problems. Opportunities are the same as always if the dealer is substantially financed and has an aggressive organization."

Local midwestern firm: "Problem: Credit. Opportunities: Tie in with own program or integrate."

Eastern firm: "Capital investment in bulk handling equipment, pelleting equipment and financing will be problems. Quick service, grain banking and local trading will be opportunities."

Midwestern regional company: "High cost of machinery necessary for operation."

Another in Midwest: "Capital and manpower. There are no others for anyone."

Midwestern firm: "Competency. The ability to swing with the punches; to see opportunities and grasp them; enlightened expediency."

Northeastern company: "They must learn that more is expected of them than just exchanging feeds for dollars."

Western firm: "Principal problems: Pellets and quality control. Opportunity: Greater efficiency."

Regional firm in mid-South: "No. 1 problem—capital. No. 1 opportunity—expanding service (i.e., grain bank, mobile milling, bulk, etc.).

Southwestern firm: "The greatest problem is credit. Many dealers and local mixers would open opportunities if they would get out and do some selling instead of sitting in their offices waiting for the feed manufacturer's salesman to do their selling for them."

Midwestern and southern company: "They must keep ahead of their customers."

Midwestern firm: "Competition from larger mills with pelleting equipment, etc., will make it very difficult for the dealer to compete."

Western company: "Dealers and mixers have plenty of opportunity to serve a localized area providing they can give the services and information that feeders need."

Midwestern firm: "Problem: Lack of capital. Opportunity: More mixing of concentrate and farmers' grains."

Large firm: "Problem: Credit. Opportunity: Growth with the larger feed operation being in a position to offer economical, locally-mixed feeds."

Western firm: "Encourage feeders to buy complete feeds mixed by dealer in a good mixer, and discourage irresponsible statements by county agents, colleges, etc., about how much the dealers are hooking the feeders."

Northeastern firm: "Provide bulk service. Adapt services and methods with the larger, more efficient feeders in mind."

Local firm: "Need for pelleting at dealer level, and for concentrates and grain feeds mixed locally."

Large manufacturer: "Dealers and local mixers must perform service for feeders. Must become better trained to answer feeding and management problems."

Midwest spokesman: "Few opportunities. Too many local mixers now."

MARKETS

(Continued from page 2)

the extreme Southeast for late January-February shipment.

Most feed ingredient buyers feel that we will still see some more weakness in the major protein markets, and continue to buy their major proteins on an as-needed basis.

Many citrus pulp processors were operating at almost peak production this week and some of the producers with practically no storage space had to reduce their prices anywhere from $1 to $2 ton in order to get shipping instructions. The market is unsettled at $30@32.50, Florida producing plants.

Central States

Feed mixers in this area were not able to detect much of any difference between the volume of trade this past week and the one which preceded it. They were more or less unanimous in characterizing it as a more or less typical December affair—better than November insofar as sales are concerned but not matching December of last year. Mills are operating on a fairly satisfactory basis but manufacturers would like to see a little more in the way of overtime ahead of year's end.

The Dec. 1 pig survey is attracting much attention and contains some bullish as well as bearish aspects, while the spring pig crop is indicated as being about 11% less than last year. At the same time, the number of pigs on farms Dec. 1 dove-tailed very closely with the figure of a year ago.

Dairy feed trade is holding up well. The situation with respect to poultry feeds is about on a par with that of recent weeks.

South Central

This is a quiet week for formula feed sales in this area. The trade is preoccupied with preparations for the Christmas holiday and buying interest is at a low ebb. Running time, for most mills, will be limited to four days, normal shifts, although there are some who will operate only 3½ days. Ample floor stocks have been built up in anticipation of a loss in production over the year-end holidays.

Some nervousness has been apparent over the increased price lists that were mailed out last week end but trade sources report that there has been very little adverse comment over the higher prices. As one sales manager says, "Feeders are so busy complaining about the low prices on hogs, eggs and poultry that they don't have any time left over to complain about formula feed prices."

Ohio Valley

Like many millions of other Americans, area feed manufacturers and retailers are thoroughly enjoying this long Christmas week end with their families and friends, with all of them enjoying, too, the first deep snowfall of the current season in this area.

As so many of them had predicted, the Ohio Valley area experienced its worst shortage of turkeys in more than a decade, with retail prices at 49@55¢ lb. or some 20¢ higher than during the Thanksgiving season. One local turkey distributor said only about one million pounds of the birds were available for Christmas consumption compared with 1½ million pounds at Thanksgiving.

Obviously, area feed manufacturers view this almost unprecedented shortage of turkeys as a certain indication that there will be a sharp spring upswing in area hatchery activities, and this thinking is further indicated by a recent USDA report that hatchery operations now are running 10% ahead of the like period a year earlier. If this situation develops, it will mean that considerably higher tonnages for all types of poultry feeds will have to be manufactured and distributed this spring than were ordered last year.

So, facing this pleasant prospect, it was to be expected that everyone in the Ohio Valley in any way associated with the poultry industry enjoyed his or her Christmas dinner to the utmost, while realizing that there is every promise of a busy and prosperous year ahead.

Pacific Northwest

Oregon and Washington formula feed sales continue fairly good this week, but trade sources at Portland and Seattle reported there were indications that the current winter weather is restricting supplemental feeding in some sections.

Ingredient trading was fairly active for some of the principal items during the pre-holiday period with major feed mixers having covered most of their January needs.

Feedstuffs price averages were unchanged or moderately advanced as a reflection of dependable interest for certain feeds along with tighter supplies of others. Holiday dullness prevailed near the week's close when trading was considered slow on a seasonal basis.

Wheat millfeeds closed $1 ton higher in front of a good demand and a firmer holding tendency by flour mills. Soybean mill values gained 50¢ ton as a result of smaller offerings and fish meal quotations gained 5¢ a protein unit for the same reason. Feed grain prices rose steadily.

Pacific Northwest alfalfa hay trading was quiet, but prices held firm. Coastal feeding area trading activity was generally slow with activity moderate at most Oregon and Washington producing points.

Mountain States

Volume of business for formula feed dealers in this area has been almost at a standstill. That is, it is the same as the week before and remains steady compared with a year ago at this time.

Dealers are only selling feed and range lot feed. Nothing is being sold to the turkey and chicken people at the present time.

This time of year here is generally very slow, which is a perfectly normal reaction according to the feed dealers.

Business Clinic Set For Michigan Feed Men

EAST LANSING, MICH. — Cost control, employee relations and a look at the grain elevator business as it may be in 1970 will be on the agenda for the annual business clinic of the Michigan Feed & Grain Dealers Assn. Jan. 5-6 at Michigan State University.

Sponsoring the Kellogg Center Clinic will be the Michigan Bean Shippers Assn., feed and grain dealers and the Michigan Association of Farmer Cooperatives, in cooperation with the MSU College of Agriculture.

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